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(Gelatine Print issued only with Imperial Edition.)
Competitive Designs for the Cathedral of St. John the Divine, New York, N. Y.
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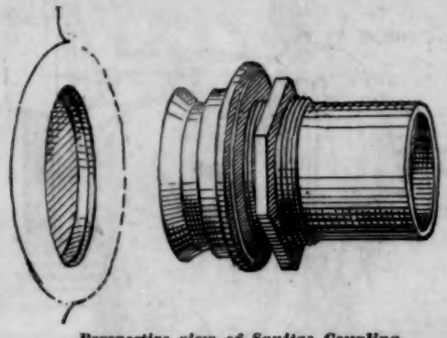

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OUR readers will remember something of the case in which Mr. Manly N. Cutter, a well-known architect of New York, was engaged to build an extension to a house near that city, and had a controversy with the owner about his pay, the architect claiming the usual commission on the cost of the extension, while the owner resisted the claim on the ground that the architect had greatly exceeded the stipulated limit of cost. According to the newspapers, the owner, a Mr. Morris, whose breathing apparatus was, perhaps, defective, requested Mr. Cutter to add to his cottage a room in which a person addicted to snoring could sleep without disturbing the other inmates of the house. It was accordingly arranged that the new apartment should be in a separate wing, accessible from the main house only through a bath-room, and that the walls between should be carefully deafened. Mr. Morris then went to Florida, expecting to find on his return the plan carried out, at an expense which, as he supposed, would not exceed five thousand dollars. According to Mr. Cutter's story, no sooner was his client out of the way than his wife, who was left behind, began to insist on the adornment of the snoring apartment with all sorts of beautiful things. Not only was it made a construction of stone instead of wood, but a splendid fireplace, with an outside chimney, was added; a carved frieze was ordered, to go around the room; windows of "Venetian" stained-glass, with allegorical figures, were substituted for ordinary sashes; the bath-room ceiling was domed, and the room hung with hand-painted stamped leather, and so on; while costly pieces of furniture were designed for building into the walls. When Mr. Morris returned from the South he was, as he alleges, startled to find that his five-thousand-dollar snoring-room had already cost twelve thousand, and that fifteen thousand more would be needed to finish it according to the designs. We can better imagine than describe the scene which probably took place between the spouses on the discovery of this fact, but the upshot was that Mr. Morris brought suit against the architect for sixteen thousand dollars damages, on what ground does not appear. This suit was thrown out by the court, while Mr. Cutter's suit for payment of his bill was entertained, and, after years of waiting, judgment was given in his favor. Mr. Morris, who is reputed to be very wealthy, availed himself, however, of the facilities afforded by our law for rendering it impossible for professional men to collect debts due from persons richer than themselves, and carried the case to the Court of Appeals, which has just decided that it must be tried over again.

THE matter has, however, gone far enough to furnish a useful lesson to other architects, the moral of which is that it is highly dangerous to assume that a lady has any authority to give directions in regard to any of her husband's affairs, including his building operations. To the profession, it would be incredible that an architect should, out of mere idle fancy, and without positive orders, convert a five-thousand-dollar snoring-room into a retreat which would dazzle a Sybarite; but it should never be forgotten that courts have nothing to do with facts or probabilities, but only with testimony, and that the number of women who, on finding that their husbands were enraged at having to pay three times as much as they expected for a given piece of work, would, on the witness-stand, take the blame on themselves, instead of throwing it on the architect, is very small. Of course, in regard to many building matters, it is necessary to follow the advice and directions of ladies, and these often fail to coincide with the intentions of their consorts, but by keeping in mind that beautiful feminine amiability, which shows itself in forgetting, at a moment's notice, all promises, directions, contracts or other circumstances by which the harmony of the domestic circle might be imperilled, the prudent architect will be led to provide, by notes taken at the time, memoranda in the lady's handwriting and other indications, evidence to which he can have recourse if it should ever be necessary to establish the facts in the case by something more convincing than his own assertions.

AN address was delivered recently at Worcester, England, by Mr. G. W. Hastings, President of the Sanitary Congress held there, which contained some curious statements. Speaking of the thoroughness with which sanitary investigations are now carried on, he mentioned that a dinner-party was given not long ago in the most fashionable part of London, at which sixteen people sat down. After the dinner, there was a reception in the same house, attended by about a hundred and fifty people, for whom refreshments were served. Shortly after the dinner-party, seven out of the sixteen guests came down with scarlet-fever, followed by two of the servants of the house, and a considerable number of the persons who attended the reception. The interval which elapsed between the party and the simultaneous breaking-out of so many cases of fever corresponded with the usual period of incubation of scarlatina, and the inference was plain that the patients must have been infected with the disease on that occasion. There were two children, belonging to the family of the entertainers, but these had been sent away the day before the party, and were neither ill when they went away, nor were they taken with the fever after their return, so that the house itself could hardly have been infected. An official inspector was sent to inquire into the case, and after thorough investigation of the circumstances he came to the conclusion that the fever was communicated not by contact, or by infectious particles floating in the room, but by something which the guests had eaten. Further inquiry, as to what each guest ate, showed that no one was attacked by the fever who had not taken cream, while nearly every one who had tasted any cream, including the reception guests, as well as those at the dinner, had been attacked. Among the servants, the cook and the kitchen-maid, who had tried some of the cream, were taken with the fever, while the others, who had merely handed it to the guests, all escaped. The inference was unavoidable that in this case the vehicle of infection was the cream, but it proved impossible to ascertain how the infection had been communicated to it, and nothing more certain could be derived from the investigation than a warning to be careful about all forms of milk and cream, particularly in times of epidemic scarlet-fever or diphtheria. Another, and rather more noted instance, shows conclusively that scarlet-fever is communicated by milk. A certain district of London was, in great part, supplied with milk from a particular farm. An outbreak of scarlet-fever occurred in the district, and it was found that the disease followed the lines of distribution of milk from this farm. Every one who drank the milk was not infected, but wherever the milk went, there were many cases. The sanitary authorities, after finding that the fever followed the milk route, investigated the farm from which the milk came, and found that all the cows but one were ailing with a trivial complaint, somewhat resembling the vaccine disease. They were, however, all milked as usual, and the milk of the healthy cow was mixed with that of the others. The inspectors had the milk of the healthy cow kept and sold separately, and no new cases of fever were reported from this part of the route; but on mixing it again with that of the

others, the fever reappeared. The conclusion of the inspectors was that the cows were affected with a bovine form of scarlatina, which was, by their milk, communicated to the persons who drank it, appearing as the ordinary virulent human scarlet-fever. It is curious that, on the Continent of Europe, it is generally considered imprudent to drink milk unboiled. Very possibly, in years gone by, severe epidemics have been traced, as in these more recent cases, to the use of milk, and long experience has led the simple peasants to apply, as a precaution, what is still the best method known for destroying disease germs, the raising of the liquid suspected of containing them to the boiling-point.

WE think it is useful occasionally to call the attention of our younger readers to points in the life of noted architects, as a reminder that professional success is not always, or even commonly, the reward of a course of life consisting in the scornful neglect of all difficult intellectual work, and the substitution for it of a certain feverish cleverness in making sketches, which excite the admiration of their author and his associates, but reflect his own disdain for prosaic inquiries as to the means of carrying them into execution. There are in the offices many men whose capacity is limited by the ability to dash in bold shadows in a perspective of a building about whose construction they know absolutely nothing, yet these men often regard themselves as being at the very pinnacle of architectural attainment, and, with their inordinate conceit of their own genius, and sneering malice against the plodders who try to learn all they can about their future business, do great harm to the younger ones, who take them at their own estimate of themselves, and try to imitate them. Prof. T. Roger Smith delivered, not long ago, a lecture on the life of Sir Christopher Wren, in which is well shown the development of a character which must, to some degree, be imitated by all those who wish to have important architectural commissions entrusted to them.

WREN was the son of the Dean of Windsor, and nephew of the Bishop of Ely, a man energetic enough to be impeached for his political opinions, and confined for eighteen years in the Tower. Although a clergyman, Wren's father was skilled in architecture, and was actually employed by King Charles I to design a palace, which, owing to certain misfortunes of his illustrious client, was not carried out, although the affair went so far that estimates were obtained for its erection. Young Wren was prepared by his father and a private tutor for Westminster School, and went from there to Oxford when only fourteen years old. Seven years later, after a distinguished university career, he took his M. A. degree, and was immediately elected a Fellow of the college. He remained in residence at Oxford, engaged in mathematical and scientific work, until 1657, when he was called to Gresham College, London, as Professor of Astronomy. Three years later, he was appointed Savilian Professor of Astronomy at Oxford, and in the next year received the honorary degree of D. C. L. both from Oxford and Cambridge Universities. Whether he had made any study of architecture during this period seems to be uncertain, but it is probable that he had, and that the fact was known, for in 1661 he was appointed Deputy Surveyor-General of Works, and in the next year was made a member of a small commission for the inspection of roads and buildings. In 1663 he was employed as architect of the Sheldonian Theatre at Oxford, his first important building, so far as is known, and still one of the most conspicuous buildings in the city, and in the same year designed the Chapel of Pembroke College at Cambridge. Before the end of the year he was invited to plan the fortifications of Tangier, in Morocco, but declined, and at the same time was chosen to examine and report upon the condition of the old St. Paul's. He advised at this time the demolition and rebuilding of portions of the structure, but it was not until 1666, after the great fire had destroyed all but the walls, that he was commissioned by the King to design a new edifice. His fame as a scientific man and ingenious inventor, which he had won in learned society at Oxford, appears to have supplemented very effectively his rather short experience as an architect, for, after the fire, besides St. Paul's, he was employed to rebuild fifty churches in London which had been destroyed. How he acquitted himself of this task every one knows. Later in life, he became the President of the Royal Society and a member of Parliament, and died at the advanced age of ninety-one, and was buried in the middle of his great cathedral, where his tomb has for a hundred and seventy years attracted the attention of nearly all visitors.

PROFESSOR CHARLES H. MOORE, of Cambridge, has excited a good deal of talk by an article in the *Atlantic Monthly*, in which he repeats, what every painter knows, but few, in this country, dare to assert, that America presents very little landscape attractive to an artist's eye. His idea, it is needless to say, is received with indignation by the people who find the triumph of art in pictures fifteen feet square, depicting ranges of mountains of enormous height, down whose sides pour the tallest cascades on earth, while buffalos prance about in the foreground, and Professor Moore is scornfully accused of borrowing his ideas from Mr. Ruskin; but the idea is none the worse for having been expressed, most truly and nobly, in the "*Lamp of Memory*," and American art owes a good deal to Professor Moore for repeating the lesson in a new form. Not only, however, does his paper point out that a landscape pure and simple has but a transitory charm unless connected in some way with human sentiment, but he goes farther, and says that "of village architecture we have never had any in the country worthy of the name. There is not a village in the land whose streets, so far as their buildings are concerned, would ever tempt a painter of discernment to linger and make drawings." Although this assertion seems to have excited more adverse criticism than any other in the article, and Professor Moore is charged with wilful blindness to the beauties of American villages, we venture to say that architects, who ought to know something about the matter, will unanimously support it. Although a few towns that we know of, particularly Nantucket, Kingston, R. I., and one or two more, afford many bits of sentiment, charming to us, who can understand the associations which hang about their peaceful decay, the charm comes from the associations alone, and not in any degree, as it would in Cluny, or Rowsley, or Brienz, or Perugia, from the beauty of the architecture which may be visible. No way has yet been devised for making a frame building, covered with clapboards, and half rotted away, look anything but mean, repulsive and contemptible, and as long as we build of inch boards, and our rivals across the water build of cut stone, so long will at least their ruined buildings be more attractive than ours. No matter how much art may have been lavished on the wooden cornices and pilasters of a colonial building, the cornice, split for half its length, and showing tumors of dry-rot fungus, and the pilasters with the lower ends rotted off, while they may interest an antiquarian, or an architect in search of detail, will disgust artists and the public for which they paint, while a structure of the same importance in stone, with its bit of tracery in a window, or its carved gargoyle under the gutter, or its patron saint in bas-relief in the gable, will be delightful, even though its tottering walls may be held up by buttresses, and cow stalls and stacks of hay may appear through the cusps of the tracery. It is due to our architects to say that they generally appreciate this fact, and even wooden houses are built in a far more permanent and simple manner than they were years ago, while many have now their stone substructures adorned with work which will please those who see it, long after ornamental wooden details, of the kind favored by our grandfathers, would have been buried in paint, or have rotted away altogether.

THE hundreds of architects who use the telephone will be interested to hear that an important reduction in the price of telephone service has just been made in France, as the result of the taking possession by the Government of all the telephone lines. While under private management, the annual subscription for telephone service in Paris was one hundred and twenty dollars a year, and in the other large cities, eighty dollars a year. Under Government management, the subscription in Paris is now eighty dollars a year. In two or three of the other large cities, where the cost of construction is increased by the necessity for carrying the lines underground, the subscription will now be sixty dollars, instead of eighty, and in the remaining towns the tariff is reduced from eighty to forty dollars, but with the condition that subscribers on new lines pay something toward the construction of the lines. The telephone company, whose lines were forcibly taken by the Government, protests and threatens, and an attempt will probably be made to recover the property, but, meanwhile, the subscribers rejoice.

JEAN PAUL AUBÉ.[1] — V.

Statue of General Joubert. J. P. Aube, Sculptor. From *L' Art.*

ASKING, one day, one of the most distinguished French sculptors why it was that a man of Aubé's capacity should have to wait until he was fifty years of age before he could have a chance to execute important public work, this answer was given: "It's all a matter of influence. Politics is our greatest bane. The moment a politician is interested, the chances are that a poor statue or monument is brought into existence. They rarely have anything to do with a good sculptor. Then there are other influences much stronger than a love of art. Chance and individual effort have produced all our fine works. If favoritism happens to choose a good sculptor, so much the better. One of the most serious obstacles that our art has to contend with is the enormously increasing number of young men of more or less talent but little genius. Most of them are poor, and they expect the Government to support them. The result is that, in order to help these aspirants, better men are neglected. Our high-class sculptors barely earn a living, especially those who will not employ assistants. Take Fremiet for an example: he has been producing sculpture for more than forty years, he does all his own work, yet he must still keep at it in order to live. Falguière is not overcrowded with orders, and Rodin, though engaged on a life commission, has all he can do to live comfortably. Dalou has an immense monument on hand, but, being one of those who won't employ help, he will gain little money. Aubé's sketch for the Gambetta monument was by far the best one submitted, but there were other facts of potency at work to favor a just decision. Fremiet has never received an important commission from the State, and he is over sixty years of age. Our great artists, especially the sculptors, have produced themselves and made the fame of their country in spite of her. There are a great many surprises in the real history of French art. Men of the slightest ability often enjoy the widest public notoriety, and those of the rarest genius are not known beyond the narrow circle of a few professional friends. If you should ask certain sculptors like Rodin, Fremiet and others to tell you what was one of the best pieces of nude modelling that had been made in France during this century, they would point out a figure called 'Echo,' owned by Alexander Dumas, and made by an unknown sculptor (so far as the general world is concerned), named Adrien Gaudez, a great artist and a learned man in his art. Paris is the centre of the modern world of art; it is also the cemetery of many able, living artists.

"Besides, there is so much passing art to attend to that men who are richly entitled to serious consideration, especially if they are undemonstrative — and Aubé is of that kind, are too often passed by with no more notice than is given to the latest aspirant. Our greatest men have had to go through the hardest struggles. There is an immense lack of discrimination with the majority of artists and critics, and a common, pretentious man is spoken of in the same terms as those employed in designating a genius.

"True art-life in Paris is a most terrible battle — so terrible that one is forced to think at times that, after all, the people care nothing for it. If the real history of our best works were traced out, I am certain that it would be found that it was the individual artist, helped by a friend or two, to whom their existence is due. Large, positive natures are generally disliked until after they are dead. It is human nature to neglect men like Aubé and to kill those like Rodin. The same may be said of Dalou, who is a natural fighter, and loves it. He is as radical in art as he was in politics. Such a man is too revolutionary for the even tenor of the great average. Either would destroy the other if it could.

"I know it is said that nowadays writers and art-lovers have much, if not all, to do with the fortune of an artist. It is true to a certain extent, but they always follow in support and never lead. The fortune and the destiny of artists are in the hands of each other.

"Art-history constantly repeats itself, and the sad days of Millet come round in unchanging regularity. It is a drama where the actors seem to be pushed on and off the stage like so many wooden men by an offended fate."

AUBÉ AS A MAN, SCULPTOR AND ART-TEACHER.

Aubé is a thorough Frenchman, an intense Parisian, and a splendid representative of both: a little above middle height, slightly gray; weighs about one hundred and sixty pounds, finely made, of easy movement, and not over-fastidious in dress; is fine-looking, frank, cordial and modest to a degree; a close, ready, clear and very learned talker on art and other matters, especially those concerning the welfare and progress of his country. In his likings for art he is widely cosmopolitan: a great appreciator, a keen critic, above all of his own works, and of refined and sound intuitions. Extremely happy in his family relations, a great lover of tranquility, and much given to musing. Thought to be, by the ordinary observer, a careless, thoughtless, lazy sort of boy and man, in fact he possesses a full, rich, artistic temperament, and has simply followed where it led him. To this he added a certain amount of outside energy, in order to really make something to expose in the *Salon*. Has no idea of dates, and is quite indifferent to what critics say of his work. Was an early appreciator of Rodin, and one of his firmest friends.

Speaking with Falguière in regard to what he thought of Aubé, he stopped his work and said: "What do I think of Aubé? It would take me some time to put into proper shape all that I think of him. It's no easy matter to sum up such a man. But I will say now that there is nothing fine that you cannot write of him. He is a great artist and an extremely fine man, one of the rarest and choicest of spirits, fine and sincere in every way." Other artist friends of Aubé paid like tributes to him.

As a sculptor, Aubé's object is life, simple movement, and what is understood as the architectural side of sculpture — a quality not too common in modern times. He is a great believer in nature, and is thoroughly impregnated with the love of truth; believes that the human form sings all the hymns of beauty, and agrees with all the great artists that the prudery of modern Christianity is the greatest enemy of the art of sculpture. Aubé's early modelling, though always refined, had not that firm freshness that characterizes his later work. It was like that of a sculptor who was feeling his way, and more occupied with sentiment than with execution. In regard to this momentary condition, Dargenty, in *L'Art*, 1883, made this observation; "Why does M. Aubé, in his 'Bailly,' which is very interesting, firm on his legs, intelligently modelled, as is everything that he does, have the singular fancy of making the flesh of his figure like rumpled silk? He knows, however, better than any one that different kinds of flesh, dried up as they may be, have a quality which stuffs have not, and that it is not admissible to use one model for both. In disregarding this rule he has benevolently diminished the merit of his figure, though it is none the less one of the best pieces at the *Salon*."

It has already been said that the sculptor followed his own temperament, and trusted to nature as his best assistant. He followed it with safety because it was full, rich and faultless. It led him into neither weakness nor extravagance. It relieved him from the anxiety and uneasiness that has haunted other and greater artists, and assured him, in fortunate adequacy, of the true sense of the old proverb, that "each day suffices for itself." He has always been able to say that "my thought and my life are enough for me." He relied upon the unconscious spontaneity of his soul with perfect confidence and untroubled ease. Beauty and grace came to him without effort, and new and strange tasks brought their accompanying strength. The greater the demand, the more ready and prolific were the resources. Formulas he had none; the theories of schools and the processes of ingenuity found in him neither sympathizer nor defender.

His sense of beauty was an endless field of flowers, and he gathered them at his will. From the "Syren," through Pan's world on the vases, to Gambetta and the colossal symbols of "Force" and "Truth," he culled and worked on in calm continuity.

The necessity of the day organized its own progress, its gradual production and its eventual success.

Whatever were the laws that underlie and govern all these things, it was not the artist who asked questions concerning them or dreamed of prying into their mysteries. He rode quietly on top of the waves, and was quite willing that the deep should answer unto itself. The movement, the domain and the surprises of genius were indifferent to him. His art, the expression of himself, was the all. He had no doubts, for he worked. The urgency of expression, the pleasure of production, its constant variety of succeeding needs and changes, were his world.

In spite of the fact that Aubé has succeeded in making these monumental statues for the Gambetta memorial, and had previously worked on large figures for other sculptors, his preferred fancy is for smaller figures of mythological subjects — cupids, nymphs, goddesses and the creatures of the imagination. His first serious art-studies were made with the intention of becoming a painter, and, had he pursued that branch of art, he would have been the peer of Boucher himself. It was on the Haviland vases that he ran the whole gamut of gallant fancies, rivalling both Clodion and Cellini in variety and extent of individual design. They represent a long hymn of spontaneous sentiment. The mind of the artist was so closely identified with nature that they were almost one and the same, and they went sailing along like twin desires, leaving their transforming selves upon each vase according as they were affected by caprice or circumstance: a hymn of happy artistic struggle, of unconscious contention, of ideal attitudes, joyous, playful and almost ephemeral; genius creating a world for itself, reproducing in unrestricted freedom the movement of the emotions; a riotous and enchanting fancy strung out on the most beautiful artificial form in art.

On his door, Rodin lives through a sombre journey with the

[1] Continued from page 168, No. 720

phantomed souls of the cursed dead, while Aubé, in his vases, dances through the whole fairy realm of sympathetic fancy.

In this kind of art-expression Aubé has no superior. His statuettes were accepted as masterpieces — marvels of decorative sentiment, of gracious ease and the best of taste. It was an expression of art as novel as it was modern, exquisite, delicate and voluptuous.

It was this seductive understanding of fanciful subjects, this natural sense of revelling in the gracious movements of the human form that the sculptor has impressed upon his larger works, and which gives them an intimate art and human charm quite superior to contemporaneous sculpture. It gave to the statue of Boucher its attractive personality; to that of Gambetta, a very living presence, just as he was when rousing all France in defense of the country; it made the nervously-modelled Bailly the only oath-taker, and it brought back out of the dust of ages the ancient chief of Paris merchants, Michel Lallier, in all his proud dignity of office.

There is a living presence about all these statues, a discounting of years that is both rare and exceptional. Is it any wonder that the French love to live over the great hours in their history, when, by the lifting of the artist's hand, the immortal spirits who consecrated those hours are made to pass in solemn procession before their welcoming eyes? Is it any wonder that sculptors like Aubé rejoice in reviving history in all the authority and charm of poesy, or giving to it a reality that words cannot create? As long as there is any Republicanism in France the dust of forgetfulness will never fall upon Gambetta; nor the age of the Constitution be counted by centuries, so long as the grave and dignified statue of Bailly is in existence. The whole history of that eventful scene at Versailles centred in Bailly, and his visage, his manner of expression and even his clothes become matters of the greatest importance.

If the long line of cadaverous images set up to commemorate American worthies had only a spark of this art of resurrection, if they could only distantly intimate that flesh and blood had once animated the forms of their originals, or that any sun had ever shone upon their benighted heads, the charitable archæologist might be persuaded to classify them in the doubtful list of primitive sculpture. If, with all our museums of art, all our prodigality of throwing money at art, we could only get hold of the idea that art is *life*, and sculpture something more than a mummy!

It has already been intimated that Aubé's statue of Shakespeare was not generally admired by the critics, though the artist's friends felt it to be a superbly conceived and understood work. Paul Belon, in the Paris *National*, declared it to "be completely beautiful, certain to be admired, some day, by the public in the foyer of the Comédie Française, by the side of Houdon's "Voltaire," where it belonged, and where the justice of art had marked out a place for it. Never has the author of Hamlet, such as one imagines him to be through all his works, appeared with equal intensity of life, nor in such a moving form. The "Shakespeare," by Aubé, is a majestic evocation of the poet of comedy, of the powerful thinker who was also undoubtedly a marvellous comedian." And Edmond Jacques, in the *Intransigéant*, said that "it was the Shakespeare of Shakespeare, thin, slender, comic and grave, poet and fool, comedian and creator. A strange figure, philosophic and attractive. Aubé is another great one, who is not a member of the Institute, and consequently to be felicitated and applauded."

To the writer, this statue is the most vivacious, truthful and suggestive expression of the subject of any of which he has any knowledge; in fact, it is the only one that seems and does give the impression of a person interested in himself, and trying to interest some one else. To perform this just and pleasing function the position and attitude of the figure is eminently fine. It is a charming and forcible piece of acting of itself. An actor worthy of any play and of any stage. An extraordinary example of illustrative characterization, of deep intuitive insight into a difficult subject. And what a point to arrive at in such a subject. What a subject to attack! If not as solemn and impressive as the "Bailly," as martial as the "Joubert," or as stirring as the "Gambetta," it is far superior as an expression of the sculptor's mind, and beyond them all in masterly suggestiveness. Shakespeare himself, watching and waiting in pleasing and earnest consciousness for the responsive understanding of the centuries, "My spirit is thine, the better part of me."

In the appreciation of the great bard Aubé richly deserves to be classed with Dumas and Hugo, who told their countrymen what the poet did,— the sculptor has produced the man and the actor. It is a fitting and delightful fact that a Frenchman should thus interpret him.

An indefinable and indescribable charm of this, and of all of the artist's statues, is their complete consciousness. It is an immense quality, perhaps the very greatest that an artist can possess. It embraces the best Greek statues with a cloud of glory. They are simply and wholly concerned with themselves. The "Shakespeare" gives that impression to the writer, he seems to be holding a conversation with himself. Following with his whole body, in manly gesture, the subtile action of a passing thought, the thought, worthy of all great creators, that the coming centuries would wait upon his words. The attitude and purpose of this statue is so finely related, and its illustrative intention of so high a character that it belongs among the very best French sculpture of any time. As an artistic and intellectual interpretation it is equal to the great "Voltaire," by Houdon, and well-worthy to stand beside it in the most justly renowned theatre in all the world.

The "Dante," a most scholarly and lovely impersonation, is intended to illustrate this sentence: "I do not know whether it was my intention or by chance, but in walking among the heads, my foot knocked hard against the face of one of them. Its soul weepingly cried out, 'Why do you tread on me? Why torment me?'"— *Dante's Inferno.*

The statue is a trifle larger than life, and is most appropriately placed in the little shaded park in front of the College of France — on its left, rises the new and splendid edifice of the Sorbonne, and before it, passes the Rue des Écoles. Close by is the Panthéon, the Law School for all France and the Boulevard St. Michel. "Dante" stands in the midst of a never-closing human comedy, whose hollowness he sounded to its last echo, and whose bitterness he tasted to its lowest dregs. Even in deaf bronze, and after many centuries, he continues his sad journey through the abodes of voiceful shadows, not as when the phantomed Virgil led him, in doubt and fear, but accompanied by myriads of sympathetic souls who chant his fame and wonder at his destiny. Yet he goes alone, the silent man. On Rodin's door he is surrounded by all the varied world to whose imagined existence he gave an immortal continuance, but there also he is alone. Dante is the representative of isolation, he who justly curses the meanness of mankind. Rodin and Aubé are the only sculptors who have understood the Florentine singer, in sculpture, and who have becomingly represented him.

There is a curious incongruity in the "Dante," though he is supposed to be in hell walking among the heads of the damned, his own head is adorned with laurel, a tribute of fame paid to him long after he had quitted the haunts of men. The sculptor seems to have anticipated time, and placed upon the poet's brow the wreath which all succeeding ages have united in sanctioning.

Aubé went into the School of Fine Arts, because there was no other place for him to go, but while in it he became convinced that it was not the best place for a student. When he began to work as a sculptor, he saw more clearly than ever its grave defects of organization and detailed method. Summing up in later years the results of his School studies, he is forced to say that he derived little advantage from attending it, because its methods were not only too restrictive, but utterly inapplicable to the development of art-natures like his own. He says: "The School has certain rules and arbitrary methods to which the pupil, no matter what may be his tastes, tendencies or temperament, is obliged to submit. In the nature of things, the majority of the pupils who go through the School lose whatever individuality they may have had, and become simply routine followers of its teachings and methods, often, of course, possessing great skill in the manipulation of the material in which they work, be it clay or paint.

"The students who have a positive individuality of temperament, and who go through the School without being completely ruined, find themselves so burdened with its training that they regard the latter as an enemy to their freedom, which they are obliged to contend against all their lives. Some of these students succeed to a considerable degree in throwing off this burden, and showing in their works much of their original temperaments, though there are traces, more or less distinct, of their school-training. Occasionally a student, like Carpeaux, passes through the School, wins the Prix de Rome, and at the same time asserts with persistent demonstration and constant protest, his own individuality and dislike of its rules. Carpeaux would have his own way at any price.

"Dalou and Rodin are much more radical than I am on this subject, though we agree on general principles. They would close the School, I think. My feeling is that the methods pursued at the School are not those best calculated to develop an artist. They would hurt, if not destroy, a fine personality if he remained too long in it. The School represents the tendencies and methods of an organization, and the moment you organize a system of art-instruction, you injure its value for the best art-temperaments.

"Even a committee of artists are an uncertain body. Get them together, men of the best talent, to judge a matter of art, no matter what it is, and they seem to lose their character and intelligence as individuals, follow no guiding idea, and are at the mercy of caprice or fanciful criticism. Thus they are more likely to condemn a work because of some inevitable fault than to defend it because of its merits. It is a strange fact, and one of the reasons why a school of art is likely to be narrow and bigoted in its rules and practice.

"A student might remain with safety at the School for two or three years, but I should question a longer time. The purpose of an art-school should be the development of the temperament of the pupil, not the inculcation of theories. Theories in matters of art are generally pernicious."

The detailed faults of the School, as defined by Aubé, are precisely those described in the articles on Rodin.

Aubé is a practical exemplifier of his views on art-education, for he has taught for several years, two days and two evenings of each week, in a city art-school at No. 19 Rue des Petits Hôtels, at least four miles from his own home.

No sculptor in France, and I doubt if any sculptor of Aubé's genius anywhere, or at any time, has had so much to do in an intimate, professional and agreeable way with other sculptors as he. His easy, undemonstrative temperament, his generous cosmopolitanism, his moderate views on art-matters, his human interest in all that pertains to his profession, and the absence of any revolutionary element in his work, has made him generally beloved both as man

and artist. Fortunate in making early friendships, he is still more fortunate in retaining them through all the rivalships and contentions of an active professional life. A constant participator in many important art-competitions, and a powerful opponent against men of larger fame and publicity, he has been able to sound with certainty the character of men, and to understand the tendencies that weigh in the decision of such matters.

None knows better than he the whole round of vicissitudes that beset the life of an artist, and how strangely unconnected they are even with their own histories. "It is very difficult," he observes, "to get at the real personal history of an artist; the two are often strangers to each other. It is rare, very rare, that the life of a great artist is known to the world. It, as well as his fame, rests more tenderly and securely in the hearts of other great artists. They see and feel each other through their works. I doubt if words are adequate to tell the story of a real artist, or translate the precise meaning of his thoughts."

The sculptor is a firm believer in the influences, activities and life of his own day and generation, and that the first pleasure of an artist should be to sympathize in and work to express that life, its activities and its influences.

For one of its expressions, he would like to see all industries influenced and dominated by art. "Whatever is worth doing at all is worth doing well" is a saying which he recognizes as law, and he would have every article of man's handiwork beautiful as well as useful, artistic as well as serviceable. He teaches art in order to help realize this great end. Like all true educators, he believes that the best teaching, at all times and ages, is none too good for all or any pupil. To the thorough application of these two important principles Aubé has given labor and thought without stint. For their full accomplishment, he thinks no sacrifice is too great. The results of his teachings at the above-mentioned school are of the most encouraging character, for the pupils represent in their progress and final graduation the effects of the superior instruction they have received.

Not since Rude's famous studio of young sculptors of forty years ago has there been a modelling-school in Paris conducted with such personal attention and upon so high a plane of educational intelligence.

Aubé is not only an ardent country-loving Frenchman, an intense Parisian and a good sculptor, but a useful citizen in its largest sense. The fame of his country is the all-in-all. To still more enlarge it upon the solidest foundations, to have its value felt everywhere, he would make it more than ever the one centre of the art of all the world; make it so by the largest and widest generosity in the cultivation of every possible phase of art-sentiment and every tendency to tasteful manipulation; by the most careful respect for the natural inclinations of the mind of the pupil, and the utmost personal and continual attentions of the master; by making intelligent men, as well as capable artists and tasteful workmen.

T. H. BARTLETT.

[The end.]

THE RESPONSIBILITY OF ARCHITECTS.

Relief on Bach's Monument
Eisenach. Germ.
by Prof. Donndorf

THE report of the committee of the Western Association of Architects on legal decisions presented at its last annual convention contains, amongst other matters, the following on the liability of architects:

"The liability of the architect has been pronounced in a number of decisions, of which the following have come to the knowledge of your committee:

"*First Case.* — An architect in this city had charge of the erection of a house for a widow. The contracts had been let to a carpenter in one. It provided the architect to be umpire, and payments were to be made on his certificate. Specifications provided a 'first-class job.' Through neglect of the architect, the work was carried out poorly, extremely poorly in many respects, so that the widow refused to pay the final certificate. The case went into court, and the judge decided that the widow was bound to pay the architect's certificate, just or unjust, and that if she had any case at all she might bring suit against the architect. So she did, and recovered $800, which was paid by the architect.

"*Second Case.* — A widow erected a mansion under the charge of an architect. She had difficulty in obtaining the plans. Her directions as to changes were not heeded, and she became frightened enough to consult a lawyer. A private superintendent was employed. The architect was notified in writing as to changes being required here and there, and as to work being carried out carelessly. The house was completed and every certificate was paid, since it would have been useless to contest the payment of any of them. There was no evidence as to fraud, though such there was undoubtedly committed. The widow then sued the architect and recovered judgment for $4,500, which remained final.

"*Third Case.* — A citizen erected a block of houses during the winter. The architect neglected to provide means for keeping out the frost, and allowed the mason to build dwarf walls upon the frozen ground. Through this the building became to a considerable extent damaged, and the owner brought suit. The first verdict obtained was $1,400 against the architect, who appealed and received, incidentally so, as it would appear, an order for a new trial. The case was thereupon tried again in another court, and verdict was obtained against the architect for $1,900. The case had been tried more effectively, and the facts brought to the understanding of the jury.

"In all these cases the specifications had a preamble in which the architect was declared to be, in so many words, sole arbiter. Doubtless there are many more similar cases on record.

"In case an architect should not thus expressly declare himself to be sole arbiter, he would not be excused, but held under the rule of established custom. If, however, an architect expressly declares that he is not arbiter, and had nothing to say and to rule, he could, of course, not be held liable. But would not his position be simply pitiable? No respectable architect would like to be under such predicament.

"Every architect should be fully aware that his profession is one that may entangle him in scores of liabilities, and he should prepare himself accordingly. He 'professes' to know, and ought to know. He stands on the same legal ground with every other professional practitioner, with this difference: that his malpractice is far more clearly and positively established than is the case in any other profession. The preacher has nothing to fear on this score. Little more has the land agent. Slightly more still the doctor and the lawyer, but nearest to the architect comes the operating surgeon. Many law-suits have established the certainty of severe consequences to the purse of the surgical operator upon human bodies when he commits a blunder or even an error.

"There is nothing more certain than that in all cases the architect is legally and pecuniarily liable for every blunder by him committed, or under him, through the agency of any of his employés. The responsibility on this account is far-reaching, and surpasses that existing with any other profession.

"Under his charge, a building must come out to be constructively correct, and the work by him accepted and certified to must, in fact, conform to the requirements established in the specification. The certificate by him given must be arithmetically correct. If by error he should make it too little, the contractor most assuredly will call for correction before collecting it. But if he should make it too large, the contractor may thievishly go with it to the owner, who, on his part, may cash it, and the result is that the architect is liable to the owner for the difference, which he is bound to pay, and look to the contractor for reimbursement. In case such contractor should have the impudence to begin suit against an owner for recovery of an overdrawn estimate, he cannot recover the fictitious amount, because the court would correct the error when satisfactorily proven.

"A liability as to sufficient construction can readily be taken care of by the intelligent and well-educated architect. But serious entanglement may result in the dealing with a contractor who may be ignorant, may be dishonest, or both. A pecuniary liability may be obviated by declining certificates for payment. But what becomes of the work which the architect has at his heart? what of the remuneration coming to him? what of his time and professional standing? The contractor has all in his hands if he actively or passively defies the result. Of the two, the thievish contractor can be tamed, but with ignorance — so the old story is — even the gods combat in vain. A contractor is his own free boss. He elects his foreman, elects his workmen. An honest and knowing boss can have no great trouble on the score of poor work. But the architect must trust chance. Must he? If he fairly conceives the responsibilities on his shoulders, he will not. He will, with good conscience and tact, elect bidders known to him as honest and expert men, or such as are properly recommended to him by trustworthy parties, and reject any pet of an owner whom he knows, or justly fears, to be reckless or ignorant, or both.

"Verily, the business of an architect is difficult. It is exhaustive of the energies where pay, as it mostly is, is inadequate. The value of efficient and honest services is, at least, twice that of the remuneration generally here awarded. Architects do not generally appreciate the amount and gravity of the responsibilities under which their practice is carried on. Quacks defy them. The public generally is unaware of their existence, and certainly very unwilling to pay them for what, to them, has but a fractional reality, if any.

"The world, however, is moving. Let us hope and trust, and with good reason, too, that the coming generation of architects, at least,

will appreciate the full amount of its responsibility, and that its employers will knowingly be inclined and willing to justify and equitably compensate its improved services."

THE ILLUSTRATIONS

[*Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.*]

PORTICO TO THE HOUSE OF EDWARD CARRINGTON, ESQ., WILLIAMS STREET, PROVIDENCE, R. I.

[Gelatine Print, issued only with the Imperial Edition.]

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y. MR. FREDERICK C. WITHERS ("*Patmos*"), ARCHITECT, NEW YORK, N. Y.

[Issued only with the Imperial Edition.]

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y. — MESSRS. VAN BRUNT & HOWE ("*Christo et Ecclesiæ*"), ARCHITECTS, KANSAS CITY, MO.

[Issued only with the Imperial Edition.]

THE essential characteristics of the design bearing this motto have been derived from the consideration of these propositions:

First.— The advance in the arts of construction enable us to build much bolder vaults than were possible in the Middle Ages, at far less expense, and with a very essential diminution of weight and thrust, by providing a rigid arched frame of iron ribs, filled-in between with porous terra-cotta or hollow bricks of fire-clay, constituting practically a light homogeneous concave shell. Thus the span of the vaults may be increased, the areas of support and the appliances to resist thrust may be decreased to an extent which invites the architect to make a material departure in these respects from the familiar types of mediæval structure, which arose from the necessity of supporting the vast weight and sustaining the complicated and sleepless thrusts of stone-vaulting.

Second.— The functions of a modern Protestant metropolitan cathedral differ so from those of the Middle Ages that, in adapting the design frankly to these new conditions of worship and ceremonial, the architect is tempted in still another direction to differentiate his plan from that magnificent collocation of nave, transepts, choir and aisles, which was illustrated by the great monuments of Paris, Amiens, Rheims, Cologne, Salisbury and York. The long perspective of narrow naves, the compact shallow transepts, the vast columns supporting the clerestories and vaults, the picturesque accumulation of chapels, confessionals, altars and screens arose from mediæval conditions, and are mediæval in historical association and ecclesiastical usage. It is true that the modern Protestant cathedral, like its prototypes, should be a monument of devotion, and, to a degree, should do its own preaching, but its relations to the new civilization also imply that it should present a vast auditorium, where the largest possible number of people can hear and see and assist in the services of the church, and where the functionaries may be accommodated with respectful regard for the order and dignity of their offices as at present constituted.

Under these circumstances the task of the architect seems to be complicated by the necessity of reconciling conflicting conditions of design. On the one hand, he is influenced by the natural desire to preserve in his new structure the august traditions of cathedral architecture; on the other, to recognize improved devices of construction and provide for the modified requirements of ceremonial worship, which, in many practical respects, may perhaps be most conveniently accommodated by a form of building rather secular than religious in its associations.

Modern English cathedral designs (notably in the late competition for the proposed cathedral at Liverpool) have aimed to meet this latter difficulty by following the suggestions of Ely and of the greater Renaissance cathedrals, and establishing a lofty dome at the crossing of nave and transepts. But this device, though eminently noble and architectural in interior and exterior effects, seems not only inadequate to meet all the requirements of space available to an audience, in the modern sense, but encumbers the floor with vast piers, entails difficult and costly construction, and, in the echoing domical expanse above, seriously compromises the most favorable conditions of acoustics.

The accompanying sketches are intended to show how all the advantage of a modern secular auditorium may be obtained without too great a departure from consecrated precedents, and at a minimum cost consistent with monumental effect, by shortening the nave within reasonable acoustic limits, and giving to the transepts far greater importance than is customary in mediæval cathedrals. The auditorium space is still further enlarged by establishing open galleries on two sides of each transept, facing the opening of the choir, and on a level continuous with the triforium of the nave.

These enlarged transepts, being furnished with apses and porches, assume the characteristics of large parish churches, of which the naves lie parallel with that of the cathedral proper. In fact, they may be used as chapels where the less important functions of the cathedral may be celebrated, while the whole space remains available for the full service. It would be practicable, and perhaps advisable, to enclose the area immediately in front of the two transept-apses with movable or permanent screens on the lines marked "A" on the general plan, thus providing smaller chapels for early morning service, or for the neighboring diocesan schools or hospitals, without essential loss of space required for the greater ceremonials.

In computing the number of chairs which may be accommodated in the areas thus established, where all may be within sound of a voice from the pulpit or lectern, it is liberal to allow seven square feet for each. This allowance includes necessary space for passages and the areas of piers. The floor area of the cathedral, including galleries, lying south of the line where the pulpit is established, amounts to 22,272 square feet. This space will accommodate 3,180 worshippers, leaving the areas of the triforium and of the enclosed chapels unoccupied. It seems safe to assume that 3,000 people may be comfortably placed within the walls so that all may see, as well as hear the preacher; of these 1,500 will be in full view of the high altar.

It has been found convenient to make the principal dimensions of the cathedral multiples of 16 feet, this being the width of the aisles: the exterior length is 330 feet; but the extreme interior width is 208 feet, and the extreme exterior width, 218 feet. The height from pavement to crown of vault is 85 feet, the method of construction making it possible to carry the point of the ceiling far above the level of the clerestory exterior cornice. The slight outward thrust of the iron roof-trusses above the vaulting is met by light flying-buttresses. The height of the tower and spire at main entrance is 325 feet; that of the four spires at the ends of the two transepts, 178 feet; that of the central copper or lead *flèche*, 242 feet.

It is not improbable that a further study of the problem of vaulting the cathedral with blocks of porous terra-cotta or hollow fire-clay, supported by an arched frame of iron ribs, would justify the application of a system of fan tracery, somewhat on the principle suggested in the roof of King's College Chapel at Cambridge, thus securing an effect of elaboration and richness far surpassing what is obtainable by following any scheme based upon structural quadripartite vaulting.

On the west, it is suggested that a garth be established by extending a continuous glazed cloister, 16 feet wide, from one bay of the choir-aisle around the enclosure, which is sufficiently open toward the south not to mask the cathedral. Against the outer walls of the cloister (which may be occupied by mural monuments and serve as a necrarium), and over them where needed, the see-house, the hospitals, schools and other ecclesiastical establishments may be built as required, and nearer to the choir should be grouped the vestries, sacristy, chapter-house and other offices connected with the immediate service of the cathedral, which is thus left clear of all encumbrances, surrounded by large, open spaces, and visible in all its parts. A minor quadrangle or close is suggested towards the north for the accommodation of the dean and canons in residence. An important point in the placing of the cathedral upon the site is to have the spire in the axis of a city street. This point is obtained in reference to One Hundred and Eleventh Street. The various approaches to the main building and its relation to the minor structures are sufficiently explained on the site-plan. But it may be advisable to state that this drawing pretends to present only a general impression of the grouping of buildings in relation to the cathedral and the neighboring streets, without committing itself to any definite project regarding the details or uses of these buildings.

The architectural character of this design has grown out of the necessities of its structure, with no preconceived intention of strictly following the precedents supplied by any particular epoch or country. But it seemed wise to draw inspiration from the earlier Christian monuments before they had, by the accidents of history, ecclesiastical and civic, developed into any kind of definite progress towards later and more sophisticated forms. From this point-of-view, the domical Romanesque seemed to offer the most promising point of departure. But this naturally develops into some form of Early Pointed when we begin to apply to it the intersection of vaults. It cannot be forced into any other direction of growth when we abandon the enormous weight of wall and piers necessitated by the stone ceilings of the eleventh and twelfth centuries in favor of the lighter structure suggested by the modern possibilities of vaulting. It would seem, therefore, that the modern architect performs a legitimate function in grafting upon the strong, healthy stock of the French Gothic of the twelfth century (that of St. Denis) the conditions imposed by the ecclesiastical requirements and constructional resources of the nineteenth. A religious monument of such enduring magnitude should stand as the highest exponent of contemporary civilization. To apply to the designing of such a monument any more fundamental process of invention, to impose upon it the personal fancies or predilections of the moment, or to affect it with prevailing fashions of design, which to-morrow may pass into oblivion, would be an act of presumption. On the other hand, a frank adjustment of ancient consecrated forms to modern conditions of structure and use must inevitably bring our monument into the line of healthy contemporary progress, and save it from the error of anachronism.

COMPETITIVE DESIGN FOR THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y. MR. H. M. CONGDON ("*Christo et divitiæ in domo ejus*"), ARCHITECT, NEW YORK, N. Y.

THE design for Cathedral of St. John the Divine, which bears the above motto, is laid out on the general ground-plan of English cathedrals, having besides the main transept an eastern one.

On the east side of north and south main transepts are four apsidal chapels with their own dedication and altars for different nationalities, *viz.:* St. Boniface, German; St. Gregory, Italian; St. Remigius, French; and St. Olaf, Swedish. These have side-screens, and the whole space in front of each can be used for attendance upon celebrations in the different languages. A double porch opens into the south transept on west side, and the north transept has an octagonal porch at entrance. The large octagon at crossing gives the utmost space for a vast congregation to gather within sight and hearing of the preacher.

A lofty rood-screen marks the separation of the choir, which is of three bays, and one bay for the sanctuary, beyond the crossing of the eastern transept, all enclosed within open-work iron screens. Aisles form an ambulatory all round the choir, which seats 146 clergy and 60 choristers.

East of the choir, and separated from the ambulatory by a rood-screen, is the Lady Chapel dedicated to the Blessed Virgin, with its altar and sacristy. A porch in south aisle of choir gives access to the chapel, which can be used for early celebrations and minor holy-day services.

The interior dimensions are about the same as Lincoln Cathedral, save that the vaulting is higher and the feature of the octagon at crossing is wanting in the former. This octagon follows the ancient precedent of Ely, as well as the modern one carried out in two of the designs for the new Liverpool Cathedral.

The internal elevation of nave, transepts and choir is marked by the cathedral triple arrangement of arcade, triforium and clerestory, with large windows in the gable walls of different designs.

The whole interior is intended to have vaulting in stone, with roofs over, framed in iron and covered with copper.

All the internal walls are to be faced with stone as selected, no plaster or paint being needed. A warm, reddish buff color would be preferable, which, with red granite columns and richly-stained glass in windows, would give a warm atmosphere to the interior, which, with its architectural proportions, would have the effect aimed at in the design, *viz.:* stately, dignified and, above all religious.

The prevailing style of architecture is Early French based upon the English ground-plan, and carries out the idea of the early union of the Gallican and British Church as exemplified by the Council of Arles, at which place, also, St. Augustine was consecrated bishop, thus deriving his orders — Taro, Lyons and Ephesus — from St. John the Divine.

The position of the dome over the central crossing of nave and main transepts is further emphasized by the flanking towers terminating in slender spires, which form a contrast with its mass, and are constructionally useful in giving access to its upper part. This composition admits a claim of some originality to the design, as this feature is unusual, but also gives a graceful grouping to the mass whether viewed from the eastern or western angle of the building.

The eastern transepts are carried up to same height as choir for one bay only, and continued at a lower elevation for two bays more, thus securing a greater amount of light at east end for illuminating the sanctuary.

DIMENSIONS.

Width of nave between centre of columns		40 ft.
" " " and aisles between walls		80 "
" " crossing covered by lantern and dome		80 "
" " transepts between aisle walls		80 "
Inside length from west wall to choir-screen		232 "
" " of transepts between north and south walls		216 "
Outside diameter of western towers		28 "
" " " towers flanking dome		38 "
Width of choir between centres of columns		40 "
Length of choir from rood-screen to east wall		120 "
Width of choir aisles from wall to centres of columns		20 "
" " eastern transept between walls		50 "
Length of eastern transept between walls		164 "
Width of ambulatory		18 "
" " Lady Chapel between aisle walls		55 "
" " " " from screen to east end		76 "
Cloister, outside dimensions	90 ft. x	94 ft.
Library and chapter-room over, inside walls	30 ft. x	80 ft.
Total length of cathedral outside of walls, including Lady Chapel		472 "
Total width outside of walls of main transepts		248 "
Height to vaulting in nave, transept and choir		92 "
" " outside ridge of nave, transept and choir		120 "
" " vaulting in lantern		160 "
" of western towers to top of parapet	*	140 "
" " " " " spires		176 "
" to top of cross on dome		300 "
" " " finial on spires flanking dome		330 "

MORTUARIES IN PARIS. — Each *arrondissement* of Paris will henceforth be provided with a mortuary depot to meet cases of which the following is a type: A man died recently in a cab, and the body, upon being brought to his furnished lodgings, was refused admittance by the proprietor. It was next conveyed to the hospital, which declined it on the ground that only living people were received. When transported to the morgue the remains were also refused, the morgue being only for the unknown dead. — *London Daily News.*

BATHS FOR THE PEOPLE.[1]

GREAT and praiseworthy as the progress has been within the last thirty or forty years of the means of cleanliness by baths of various kinds, it is not too much to say that the great mass of the laboring classes are still without these advantages. The term, "The Great Unwashed," though in a somewhat modified degree, may still be the description of the laboring classes, not only of our own country, but that of every country in Europe. In populous towns, public baths (consisting as they do of the Turkish bath, the various descriptions of shower, needle, douche, and other kinds) are for those parts of the community who are not what is termed "the laboring class."

The ordinary warm bath and the public swimming-bath are usually within the scope of the artisan, the youth, and the unmarried men of the laboring class; but it will be found on investigation that the married laborers and their families make little use of them; the reason being that the price charged, though so low, is too much for their means. The 2*d.* or less for the swimming-bath is still too much, and this bath has the disadvantage of only being used in summer, whereas, for sanitary purposes, people must be cleansed as perfectly in winter as in summer.

Now, when we consider the circumstances of the laboring class, we find that while they are children the mother can wash them at home, but as they grow up to young men and women this is not possible to be continued by themselves on account of decency; so that except the young men get a bath in a canal, stream, or other piece of water, they generally go uncleansed from year to year, until cold water over their bodies is a repulsion.

It is quite impossible to lower the prices ordinarily charged for the warm bath and the swimming-bath, without considerable loss. It may be stated generally that public baths often do not pay their expenses. What with the interest on cost of construction and the expenses of maintaining them, they seldom "pay." In Birmingham, for example, the interest on cost of construction and expenses in working amount over receipts to about a ½*d.* in the pound on the rates; and in many other large towns a similar condition of things exists. Valuable as are the results for this addition to the rates, it is not to be expected that the rate-payers will bear a further increase, to make up the loss from a further lowering of prices to meet the wants of the laboring class.

Now, while this is the case with our large and populous towns and cities, it is much worse in smaller towns and semi-populous districts all over the land, which form a much larger population in the aggregate than those towns and cities. The cost in the first instance of building baths is so great that it can rarely be undertaken, and if done by private munificence, the cost of maintenance over the receipts is so much, that when it is taken into consideration it prevents the establishment of public baths for any class whatever, so that unless a much cheaper construction of baths and less expense of maintenance be found, it seems quite unlikely that such populations will ever have the conveniences of larger towns.

The writer often had these thoughts weigh on his mind while being associated with somewhat large ironworks in a semi-populous district at Donnington, near Newport, Shropshire; but saw no chance of mending matters until the latter part of last summer, when the idea occurred to him to provide baths for his work-people, upon the plan now before this Section. But as the people do not take kindly to baths in the winter, the construction was deferred to the spring of this year, and they were ready by June 1. It must be remembered that the ordinary warm, or slipper bath, however good, is not the mode of cleansing that the laboring classes best understand, or will be persuaded to generally use; and if periodical cleansing is to be aimed at, the warm bath is not the most suitable.

Without further preface, the baths before the Section will now be described. A special point was made that everything should be done in the most complete and comfortable manner, with a minimum cost, for it is quite impossible that limited populations, without rates to draw on, can have palatial buildings. What was aimed at was completeness and efficiency, with strict economy in construction and working.

The space of ground most suitable was of irregular form — hence the peculiar shape of the plan of the building. This is only apparent on the drawing, for to the ordinary eye it is neither seen outside nor inside. It

[1] A paper read by Mr. Charles Clement Walker, F. R. A. S., at the recent Congress of the Sanitary Institute at Worcester.

is 25 feet long, the width being 18 feet 6 inches at one end, 13 feet at the other, 10 feet 3 inches high to the wall-plate, and 17 feet 9 inches to the ridge. The roof is of galvanized corrugated-iron, ceiled with deal, painted bluish white, lined with hair felt. The space is amply sufficient for six *ordinary* baths, as they will be styled in this paper, one warm bath, a drying-closet of seven horses for towels, a washing-machine, and all the apparatus for working the baths, and has a very clean, neat and comfortable appearance. The six ordinary baths, A, are arranged on one side in compartments, with doors in front. The warm bath is at B, the drying-closet is at C. The washing-machine is kept at D, and when in use is drawn out to the area E. A seat, F, is placed for persons waiting for baths, and has a board on the floor to place their feet on in case they wish to finish their dressing outside after the bath, to save time. There is a porch G, with door to prevent draught; and, as many workmen and laborers come in dirty from their work, it was found that their dirty hands soiled all they touched, so an addition has since been made to the porch, with a washing vessel and towels to wash their hands before entering the bath-house; and as their boots are often loaded with dirt, an iron grating is placed outside, level with the ground, to rub their boots on as they walk, and this, with mats inside, keep all clean.

Each bath-chamber is 8 feet long, 4 feet wide, and 7 feet 6 inches high, which gives ample room. The partitions are galvanized, corrugated-iron, stiffened at the bottom with angle-iron, the hollow spaces of corrugations between which are filled with cement to prevent accumulations of soapy dirt. The ceiling is of varnished deal, and forms the floor above, on which the tanks and pipes are placed that work the baths; and as this has a considerable weight to support, substantial wood posts are fixed, each with an iron shoe at the bottom, to prevent decay; and as decay is so common in bath-houses, no wood is allowed to come in contact with the quarried floor, which is flushed with a hose daily, the floor having a slight inclination to the channel-drain at the side, and soon dries.

Each ordinary bath is of cast-iron, 2 feet 6 inches in diameter by 8½ inches deep; the top is rounded off smooth, so that it can be sat upon; and they are set 5 inches above the floor, being found more convenient for either sitting in, or for cleaning the feet while sitting on the stool. There is a wood grating on the floor for the bare feet. These baths have twelve coats of white paint on the inside. Enamelled-iron would have been preferred, but it was found too expensive. Each compartment has hooks for clothes; and to prevent the common custom of throwing the towels on the floor, a hook is placed for them marked "Towels." And that the floor may not be made dirty by the boots being thrown anywhere, a place in a corner is marked "Boots." There is a dish for soap, and a box with two flesh-brushes and flannel. Each bath door is numbered. There is a rough glass light at the end, with sliding pane for ventilation, and a gas-jet. Over the centre of each bath is a rose above, with two chains, marked "Warm" and "Cold," for the spray. This rose has fine holes, not so large as is used for showers, for as we have to accustom the laboring class to the use of cold water, a shower from a large-holed rose is absolute horror: they cannot bear it. But with the fine spray it is absolute enjoyment, and all speak in the highest terms of how they like it. It is no small matter to teach the laboring class to love cold water. Each bath has two cocks with handles from the hot and cold water-mains, being severally marked "Hot" and "Cold." As the bathers supply themselves with water, a black line is painted on the side of the bath 3½ inches from the bottom, to show the height to fill the water. This is found to be quite enough, as the water from the spray falls into the bath. Proper directions are in the bath-room how to use the bath.

As white glazed bricks are so expensive, the walls have three coats of white paint to prevent absorption.

The bottom of the bath has a plug of 2 inches diameter. At the bottom of the recess in which it fits, a grating is fixed to prevent pieces of soap getting into the 4-inch iron main drain-pipe to which it is bolted, all joints being "faced." This pipe goes through the building, and is sealed outside; there is no smell whatever from it.

The warm or slipper bath is full-sized, of the usual kind, of enamelled tinned iron with Shanks's best fittings. The room has a chair, with wood grating and carpet. It has also a warm and cold spray.

On the floor over the baths is a hot cistern, 4 feet 6 inches, by 3 feet deep, with tubes through it heated by steam; it is covered with wood. This cistern supplies hot water to the baths, the cold-water supply being from the main. The warm spray is supplied from a cistern, 4 feet by 2 feet, by 2 feet deep, and covered with wood. Both these cisterns are encased in wood lined with dry hair-felt ½ inch thick, and it is found that they do not lose more than four or five degrees of heat during the day. The cold-spray cistern is 3 feet 3 inches by 2 feet 2 inches, by 2 feet deep, and is supplied by a pipe from the main, with a ball-cock. All the warm-water pipes for the spray are covered with felt. As there is a water-closet in an adjoining building, there has been no necessity to provide one. The total cost of the whole complete has been 220*l.*

The steam used to heat the water for the baths is the waste steam from the works adjoining, which, after having heated the boiler and cooking-apparatus of the workmen's dining-hall for 400 men, and heating the hall, makes the water 180 deg. This is in use for about eight months of the year, but during the height of summer the waste steam is turned off, as it makes the buildings too warm, and the steam direct from the boilers is then used. For these eight months the cost of heating the water is nothing, and for the remaining four months the cost of the fresh steam is but small. If the baths did not have this steam to draw upon, a separate boiler would be required; but so small a boiler would be sufficient, that an addition of 15*l.* would cover the expense. Two hundred large bath-towels are necessary for these baths, and a stock of flesh-brushes, flannels, and sundries will cost 10*l.* So that a bath-establishment, complete in itself, of this size, with washing and drying apparatus, costs 245*l.* to 250*l.*

I have tried to form an estimate of what population such baths would be sufficient for. These six are capable, without difficulty, of furnishing eighteen ordinary baths per hour. They have supplied twenty-four baths per hour, but this was found to give pressure. It will probably be found in a town, that an extra warm bath would be desirable, each bath supplying two per hour in addition to the above eighteen. I think such a bathing-establishment would supply the needs of a town of 12,000 inhabitants with ease. As all the apparatus is ample size, if more ordinary baths were wanted the addition of a few more baths of this character would be a moderate expense, as their cost is less than half of the warm or slipper bath.

After the baths were used for a month by the persons engaged at the works adjoining, and being found to be so much appreciated and enjoyed, the public were admitted on the following terms:

Ordinary bath with one large bath-towel, use of flannel and two flesh-brushes	1*d.*
Warm bath and two towels	4*d.*
Extra towel	½*d.*
Soap tablets	1*d.*

It was thought better for each person either to bring his own soap, or buy it.

The experience in the working of the baths is that five ordinary baths are used for one warm bath. The time that the ordinary bath takes is found to be twenty minutes, while half an hour is necessary for the warm bath. The next important fact is that on an average the ordinary bath consumes eight to nine gallons of water, while about forty gallons are necessary for the warm bath. So thoroughly are the bathers cleansed in the ordinary bath, that although they come very dirty from their work, the towels used for drying themselves are returned scarcely soiled.

The directions given for the use of the ordinary bath are that the bather is to fill his bath with hot and cold water, to his own liking, to the line painted on the side of the bath, and if he likes to wash his feet first, he can sit on the stool with his feet in the bath. After which he is to stand upright, pull the warm spray to wet his body all over, and use plenty of soap with the flannel, rubbing himself well, particularly the head and feet. Then use the flesh-brushes well, back and front, washing all off with the warm spray, repeating it if he likes. Then when finally cleaned all over, to pull the warm spray and wash all the soap off, and always ending with the *cold* spray, so as to obtain a good reaction, after which he dries himself with the towel, washing the flannel and brushes, and pulls the plug in the bath, rinsing it out clean for the next comer while dressing. Thus the baths work themselves. It is found that every one uses the cold spray and speaks of the enjoyment of it in the highest praise.

EXPENSES OF WORKING.

This is a matter which has been carefully considered. If these baths are in a large town, it will be found economical to have a much larger number of them, so as to make it worth while to employ a man constantly, or what is better, a man and wife as bath-keepers, the wife doing the washing and attending to the women's baths. But for a town of say 12,000 inhabitants or less, it should be arranged that the bath-keeper have some other occupation, which is his main dependence, and be paid for attending to the baths. The set of baths now described are kept by a laboring man, whose chief occupation is the charge of the workmen's dining-hall referred to; and in the time he has to spare in the morning, he fills the cisterns and heats them, which keep their heat the whole day. This does not take more than a quarter of an hour. He then washes the towels; he gives out the tickets for the money received for baths as required; and prepares a warm bath when asked for. It is found that so few come after 6.30 P. M., in the semi-populous district where they are situated, that the baths are then closed, when the attendant flushes out the whole place with a hose, and cleans up for the next day, which occupies him thirty or forty minutes. For this he is paid 4*s.* per week. This sum with the soap required for washing towels, the cost of heating the water, wear and tear of towels and brushes, is the cost of working the bath. There is a profit on the soap sold and extra towels. So moderate is the cost of construction and the expense of working, that if a person brought his own towel and soap, one halfpenny may be charged for the bath. I see no reason why these baths should not return a moderate interest on their cost, instead of being a loss, as public baths generally are. They have now been in operation nearly four months without the least hitch. Everything is so substantial and well made that very little repairs will be required. Once a year the ordinary baths will want two or three coats of enamel paint, and these are all the current expenses.

At present the baths are used only by men and boys. If women are admitted, it must be at set times when a woman will be in attendance; but for this size establishment it will not pay to have a separate set of baths for women.

THE FRENCH SLIDING RAILWAY.

Porta Maggiore del Duomo. XIII Cent., Venice.

A RECENT copy of the *Architect* contains the following fuller description of the sliding railway than was given in the note published a fortnight since:

A description of the Chemin de Fer Glissant exhibited in the Paris Exhibition was given by Sir Douglas Galton to the British Association recently. The two principles on which the system is based are: first, to cause the carriages to slide on a thin volume of water interposed between the sledge plates or skates on which the carriages rest on the rail; and, secondly, the propulsion of the sliding trains by horizontal columns of water acting through hydrants placed at intervals on the line. The system was originally designed by Girard in 1861. Girard died in 1871, and in 1885 M. Barré purchased the drawings he had left and introduced improvements, and the line in Paris, which was 200 yards long, was on the improved system. That line simply exhibited a train which ran backwards and forwards, and showed no means for transferring a train from one line to another. The sledge was of cast-iron; the water came from cylinders placed in the carriages, where it is maintained under pressure by means of compressed-air, and is carried thence through the top of the skate, whence it passes gradually out by means of interrupted channels. The channels were arranged so as to break the force of the water and to check it, and thus, as the velocity of the water in passing out diminishes, the pressure increases, and the sledge is raised slightly off the rail, about half a millimetre, and floats on that film of water. The rails are continuous, and are made of cast-iron, with a surface the width of the skate. In order to keep the skate in position on the line, there is an angle-iron on the outer side of each skate, and there are four or six skates under the carriage, according to its length. The propelling arrangement was formed by means of hydrants placed at intervals along the centre of the line, which open under the carriages. The end of each carriage was fitted with a horizontal longitudinal turbine or arrangement of vanes, so that as soon as the carriage approached the hydrant the cock was opened, and the water was forced against the vanes and propelled forward the carriage. In order to avoid danger from frost, there was an automatic arrangement to empty the water from the box after the train had passed by. The water was used over and over again. Comparing an express train carrying 22 tons weight in passengers and luggage with the sliding railway transferring the same weight, M. Barré assumed that the latter would consume 24 kilogrammes of coal, whereas the former would consume 420 kilogrammes; that is to say, that there would be an economy in fuel of 94 per cent. The advantages claimed for the invention were that it afforded great easiness of movement; that there was an absence of noise; that the train could stop almost immediately; that it could go up any incline, and that, on a level line, a speed of 140 miles an hour could be obtained with a pressure of 22 kilogrammes in the hydrants. The material was remarkably light, and it was considered that the economy would be enormous.

Sir Frederick Bramwell said that in 1853 he saw in the United States an attempt to diminish the friction of steamboats in water by blowing a film of air between the bottom of the boat and the surface of the water. Such a boat made a journey from New Jersey to New York in connection with the ferries, and, he believed, ran several years; but it was found that the power required to provide compressed-air was just about equal to what was saved in driving the paddles, and, therefore, it was not continued. He looked upon the present invention as very interesting, and, although one never knew what might come into use, he did not think the elements of commercial use were in this sliding railway.

Professor Unwin pointed out the enormous importance of the air-friction, which overshadowed the importance of the rolling friction.

The President said this was one of those subjects about which it was only safe to prophesy after it had become an established fact. It would not be safe to say it would not succeed, but at present it did not appear to be anything more than an ingenious application of a well-known principle.

MANUFACTURE OF COW-BELLS. — There are four establishments in this country devoted exclusively to the manufacture of cow-bells, two being in Collinsville, Ill. One hundred and fifty dozen are turned out daily, and thousands of them dangle from the necks of cows all over the prairies of North and South America. The manufacture of cow-bells is entirely different from that of other bells. Instead of being moulded, the metal is rolled into sheets cut into symmetrical polygons, which, when folded, are pressed into their well-known form. After being riveted they are packed in clay and brought to a white heat. When suddenly cooled, these steel bells are found to be not only tempered, but beautifully bronzed. — *Pittsburgh Despatch.*

BOOKS AND PAPERS.

PROFESSOR BAKER has supplied us, just at the right time, with just the book[1] which architects and engineers have, perhaps, needed more than any other — a modern treatise on constructions of stone, brick and mortar. When we reflect upon the books to which we have hitherto had to resort for information on this subject, the English treatises, or, worse still, the American rehashes of the English ones, with their examples drawn from engineering works executed in 1821, it is surprising that no one should have thought before of doing what Professor Baker has done; yet the invaluable "*Trautwine*," which, however, pretends to be nothing more than a condensed hand-book, is the only thing of the sort known to us. Of course, we do not wish to disparage such admirable works as Professor Lanza's "*Applied Mechanics*" or Professor Thurston's "*Materials of Engineering*." Either of these is to the fullest extent modern, scientific and practical; but neither can, of course, treat the subject in a way to be so constantly and generally useful to the working engineer and architect as a book like the one before us, which, while it avoids, for the most part, theories and *à priori* reasoning, is filled with miscellaneous information gathered from transactions of engineering societies, technical journals, correspondence with architects and engineers, or deduced from the author's own experiments.

The book begins with an account of building stones, with the modes of testing them, and tables of the results of tests already made. It then treats in a similar manner of brick, cements and mortars, and goes on to treat of the combination of stones or bricks with cement in masonry; then of the testing and treatment of soils, pile, concrete and timber foundations, retaining-walls, tunnels, dams and culverts, and, finally, of the theory of arches, some actual specifications for masonwork being added in an appendix.

This simple and natural arrangement makes the book more interesting to practical men than it would have been if the order had been reversed, besides giving a better opportunity for illustrating the principles advanced by actual examples. Many of the latter are of special interest, as being drawn from the most noted of modern constructions — the Albany State-house, the Rookery and other lofty buildings in Chicago, the Hudson River Tunnel, and so on — and judicious comments are made upon them where there seems to be occasion. It would be hard to find anything of importance in the book to which exception could be taken, but we have succeeded in discovering a few minor points for criticism. On page 79, for instance, we read that clay, mixed with sand in small amount, "will not materially decrease" the strength of mortar made from the sand. The reason given for this rather surprising statement is that the particles of clay occupy the spaces between those of sand, and are themselves enveloped and united together by the cementing paste. With all due respect to so high an authority, we cannot quite make this statement agree with our own experience, which has taught us that, on mixing clayey sand with cement, the product will set slowly and feebly, and will never reach the hardness which it would have attained if the sand had been clean.

In discussing the theory of the resistance of pile foundations, also, there is an omission of some importance. Professor Baker remarks, with great reason, that the supporting force exerted by the frictional resistance of the earth surrounding the pile has not usually been sufficiently considered in estimating the total load which a pile is capable of sustaining, and he gives some interesting statistics of the surface-friction observed in driving in different soils; but he omits to mention the fact that where piles are to be driven in made land to a firm stratum below the filling, the surface-friction, although it presents a considerable resistance to the driving of the pile, does nothing to help the pile sustain its load, but the contrary, since the filling continues to settle for many years after it is put in, and whatever frictional action it has on the pile, after this is once driven, is downward, and, instead of helping to sustain the load, coöperates with it to force the pile downward into the bearing stratum on which it stands. That this may be a serious matter is evident. Suppose the resistance of the bearing stratum under the point of a pile to be three tons, and the frictional resistance two tons; if the pile has been driven in natural soil it will carry five tons, while if driven in filled ground, although its behavior during the driving will be exactly the same as before, its sustaining power, if the pile is cylindrical, so that the effect of friction would be the same either upward or downward, will be one ton, instead of five.

DURING the time this book[2] has been awaiting its turn for thorough examination, we have more than once included its title in the list of books on sanitary subjects sent in answer to a subscriber's request for information as to the literature touching on those deeply interesting and yet outwardly repulsive matters which are semi-concealed under such polite titles as "The Sanitary Disposal of House-wastes." This large volume is not a hand-book for architects, nor is it just the sort of book that engineers seem to delight in, but it is,

[1] "*A Treatise on Masonry Construction*," by Ira O. Baker, C. E., Professor of Civil Engineering, University of Illinois. New York: John Wiley & Sons, 15 Astor Place. 1889.

[2] "*Sewerage and Land Drainage*," by George E. Waring, Jr. New York: D. Van Nostrand Company; London: E. & F. N. Spon, 1889.

like most of the author's writings suited to the needs of engineer, architect and layman alike, for no one knows better than Colonel Waring how to make a technical discussion interest the largest number of readers.

Force of circumstance has often drawn Colonel Waring into the field of controversial writing, for he has been the object of a good deal of rather savage criticism and not a little unpleasant personal abuse, and yet in his rejoinders he has been able to keep his part of the discussion as far as possible removed from the distasteful personalities which only arm the generous reader on the side of the victim of vituperation, and add no real weight to the argument. The *tu quoque*, when used by him, is a keen-edged blade, not a bruising bludgeon. In one thing he is singular—the frankness with which he is willing to express a change of views and conviction, as he has more than once on important points, and in spite of having to acknowledge that certain conclusions formerly supported by fully developed lines of argument and circumstantial proof were based on really erroneous premises. For a writer, such a swallowing of one's words is not only unpleasant, but also detrimental to one's temporary worldly interests, in that it, in a measure, destroys the commercial value of the publications in which such mistaken views have been stated, for few care to buy books that are out of date and behind the times in theory and practice, and more than one writer is suspected of declining to reconstruct his conclusions, because by so doing he would not only have to make a confession personally unpleasant, but one which would cut down his income by cutting off his copyright returns on published works. Colonel Waring has been withheld by no such petty considerations from doing his duty as one of the instructors to whom the public most willingly listen.

The point upon which Colonel Waring has been most often attacked is his advocacy of the separate system of sewerage, and the reason for these attacks is his audacity in securing a patent on a complete development of one possible form of applying such a system to town sewerage, and it is largely to an historical consideration of this subject that the present work is devoted.

We never could see the propriety of these attacks, though the grounds upon which they were made are twofold: first, because the invention was not an invention but rather a rediscovery, so to call it, of a process already in successful use, and secondly, because it was an "unprofessional" thing to do. The first charge is a matter for proof, and the investigation of the authorities who issued the patent to him: it is the second charge that is incomprehensible. It has about as much sense and justice in it as to argue that, because a clergyman is a professional man he does what is unworthy of his cloth in taking out a copyright on the book which is the outcome of the trained labor of his brain. Doctors, amongst whom the matter of professional ethics is carried to the farthest point, look on the patenting of a successful prescription as something that can only be done by quacks, and many a doctor's family is worse off to-day because of this false sense of right and wrong: yet we believe it is not an uncommon thing for a surgeon to get a patent on an instrument or a mechanical appliance of his devising. In some sense Colonel Waring's action was like taking out a patent on a course of medical treatment, or a special mode of performing an operation, things which, of course, doctors in good standing do not attempt to do, but it differs from these supposed cases in implying that it would be necessary to employ certain definitely patentable mechanisms. To our minds his action was only that of a good business man who could not see that he was called upon to throw away the chances of worldly benefit because he happened to be a member of a body controlled, more or less, by a rather fantastic code of ethics. The patenting of his idea does not make it much less profitable to the world—if the jealous prejudices of his fellows will give it fair play—while it is probably much more profitable to him.

Our readers know what the Waring system consists of, that is, essentially, a system of small pipe-sewers, from which all but house-drainage is excluded, which are kept clean and wholesome by rapid automatic flushing which is provided by flush-tanks at the highest ends of the several lines composing the system. They know this and also the great success that attended the (only partial) completion of the system which was devised for the fever-stricken city of Memphis, but they can hardly know how great a range of territory and what different parts of the world have been benefited by the introduction of this system, either in its entirety or with such modifications as local circumstances required; for the patentee is a real sanitarian, and does not hesitate to abandon his own device in favor of another scheme better suited to meet the conditions. His catholicity is shown by the descriptions and illustrations in this book of the methods and devices which other engineers have adopted in attaining the same ends as himself.

The most amusing thing in the book, and it shows that official human nature is much the same all the world over, is contained in "Appendix C," where is given a verbatim report of the discussion in the Municipal Council of Paris, as to whether the understanding reached with Colonel Waring should be kept or broken.

In 1883 M. Lavoinne, Chief Engineer of the Department of Rouen, was attracted by what had been accomplished at Memphis, and through his instrumentality it was decided to allow Colonel Waring to introduce his system in one of the worst quarters (Le Marais) of Paris. An appropriation was secured for the work, and in course of time 868 metres of sewer were laid and brought into such successful operation that, in three years, only three stoppages had occurred, the causes of which are not clear, but any one who has lived in the poorer quarters of Paris and recalls the stick kept standing in the corner of the closet so that the malodorous contents of the closet-bowl might be pressed a little farther down the pipe to the vault, will readily believe that the cause of these stoppages probably lay with the people and not in the system. Although the work was in the hands of a resident engineer, Colonel Waring naturally had to give the installation considerable personal attention, and was put to much expense by two trips to Paris during progress of the work. The scheme was persistently opposed by the public engineers and by the promoters of other systems, and, as is the case of all political bodies, these objectors had their partisans in the Municipal Council, so that when the question came up for final adjustment on March 26, 1886, a very American (or rather, say, very human) piece of chicanery was played. Unfortunately, for Colonel Waring, it was discovered that the patent which he had secured in France was probably not valid, and so there was no longer question of his being able to sell the right to use his system for the sum of $60,000, as he had hoped; and at this meeting the question turned on what indemnity it was proper to make him for the service he had rendered, and the time and trouble he had wasted. The believers in the system and the friends of fair-play thought this indemnity should be $12,000, but a report was brought in recommending that only $2,000 should be paid, on the condition, too, that he should formally relinquish any claim for remuneration if the city should see fit to profit by his experiment, and thereafter introduce the system all over the city, and even this was, after discussion, disallowed. The arguments used to bring about this unrighteous decision are, in parts, worth quoting. The report recommending a payment of $2,000 contains the argument in support of its meagreness that "another consideration ought also to be taken into the account because of the benefits that have accrued to Mr. Waring in America, as well as in France, by the contribution voted by the Council for the establishment of the system." To this, a friendly member, M. Vauthier, later replied that this reminded him of "the nobleman in the comedy who does not pay his furnishers, and finds his tailor only too fortunate in being able to see clothes which he has delivered *gratis* on his noble shoulders. This is truly a method of procedure which is not worthy of the city of Paris. Still, the nobleman has the good taste not to depreciate the clothing for which he has so singularly paid. . . . In brief, the city does not wish to pay for the services rendered, unless she can pay for them in injuries. Mr. Waring has brought here an idea which has been admitted and applied by the city of Paris; it is but natural that she should refund his expenses, and shield herself from all ulterior claims by indemnifying Mr. Waring."

M. Leclerc (the mover of the Report): "Well, gentlemen, I ask you can we here take account of sentiment? What recognition do we owe to Mr. Waring, whom we have simply permitted to make a reputation?

M. Strauss: "You were not needed for that; his reputation was made long ago in America as well as in Europe."

M. Leclerc: "I know, my dear colleague, I am not unacquainted with the fact that Mr. Waring has made the experiment of his system in Memphis, but I declare emphatically that the engineers of Paris yield nothing to Mr. Waring. He, furthermore, thanks to the experiments we have permitted him to make, has obtained important orders from the city of Havre. Is not that a considerable advantage to him?"

The matter was clearly very largely decided against Colonel Waring on grounds of purely national jealousy, for later in the discussion we find welcomed with cries of "Good, good!" this summing up of the whole question: "The point is to know, under these circumstances, whether you ought to accord a subsidy, whatever be its figure, to a foreigner, when you have about you a legion of remarkable French engineers, among whom you will easily find one who can replace Mr. Waring."

Could our own politicians have protected their own friends any more successfully?

As indicated in this discussion, the Waring system, in a modified form, is being introduced in Le Havre, and the details relating to it are given at some length, just as the several applications of the system in this country at Lenox, Norfolk, Keene, Pullman, San Diego, Stamford and elsewhere are also described at length. Some of these systems were carried out under the charge of different engineers with modifications of their own, but all are in their essentials the system that owes its introduction to the author's persuasive eloquence with tongue and pen.

A very interesting chapter describes briefly the various systems of sewage disposal in use in different parts of Europe. Another deals with the house-connections, plumbing-fittings and the disposal of house-waste by sub-surface irrigation. This chapter is of the most value to architects, but the whole book is interesting reading to any man who ever gives a thought to the bearings of sanitary effort on the lengthening of his own life.

It was exceedingly amusing to encounter in the New York *Times* some time ago a review of this book, in which the reviewer gravely said it was a great pity that so agreeable a writer as the author had never found it worth while to write something in the form of a handbook on sanitation, for he was well convinced that such a book would find a ready sale. It would probably surprise this reviewer if he knew how large a sale Colonel Waring's popular treatises on sanitation had had in past years, and how large an audience for his views

he had from time to time secured through the pages of the *Century Magazine*, *Atlantic Monthly*, the technical journals and the daily press.

SOCIETIES

ARKANSAS SOCIETY OF ENGINEERS, ARCHITECTS AND SURVEYORS.

THE third annual meeting of the Arkansas Society of Engineers, Architects and Surveyors will meet at Little Rock, Ark., on the 12th, 13th and 14th of November, and you are earnestly requested to attend the meeting.

It is desired to obtain as full a representation as possible, as an endeavor will be made to induce legislation governing the status of the professions in the State.

To render the meeting pleasant and agreeable the Local Committee has gone to a great deal of trouble and expense, and promise a very enjoyable time to all attending. Among other attractions there will be visits to the works of Pulaski Gas-Light Company, the Little Rock Electric-Light Company, and the Little Rock Oil and Compress Company. A trip will also be taken over the line of the Little Rock Dummy Railway. There will also be a lecture delivered by Dr. J. C. Branner, the State Geologist, and on the evening of the 14th the Society will be tendered a grand banquet.

No expense will attend the meeting except actual living and travelling expenses, as all else has been provided for.

FRED J. H. RICKON, *Corresponding Secretary.*

TECHNISCHER VEREIN VON NEW YORK.

FOLLOWING I beg to send you a list of the newly elected Board of Officers and Trustees of "The Technical Society of New York" which, if convenient, please accept for one of the next issues of your paper:

President: Paul Goepel, C. E.; *Vice-President:* E. L. Heusner, M. E.; *Corresponding Secretary:* Max C. Budell, C. E.; *Recording Secretary:* Eugene Dieterich, Arch.; *Treasurer:* Charles Heinecke, M. E.; *Librarian:* Franz Knauer, C. E.

Chairman of Section I, (Civil Engineers): Wilhelm Hildenbrand; Section II, (Mechanical Engineers): D. Petri-Palmedo; Section III, (Architects): H. W. Fabian; Section IV, (Chemists and Metallurgists): Th. Lungwitz.

Chairman of Committee for Arrangements: George E. Berna; for Employment, George W. Wundram; for Publication: Augustus Kurth. Respectfully yours, MAX C. BUDELL, *C. Secretary.*

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

A QUESTION OF CHARGES AND PROCEDURE.

October 23, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Your impression of 12th inst., to hand to-day and note your reply to inquiry of 24th ult. *re* "charges and procedure." Your assumption as to one set of tracings being furnished and original drawings held by the architect is correct.

The second set of tracings (on cloth), partially finished, *i. e.*, were two floor plans and front elevation for a public school building worth $10,500 and extra price charged for the work is $20.

In reference to the measurements they were taken from drawings for the entire work as shown. The building was then surveyed to ascertain the work already performed; in the manner usual for surveyors by putting into bill, etc., and priced.

As above stated the entire building amounted to $10,500: the unfinished portion to $4,344. On this latter amount was the charge of 2 per cent made. It was then discovered there were not enough funds to complete the building—only $2,200 available. Trustees requested they should be informed how far that amount would go toward completion. This necessitated a further reference to items in bill of quantities for which no charge is made.

You will observe 1½ per cent, the usual surveyors' fee, on gross amount would be $157.50 but the 2 per cent charged on $4,344 amounts to $86.88 only which seems to be a very reasonable charge under the circumstances. No charge for travelling 15 miles in the country nor any charge for stopping over night on two occasions besides the looking into how far the $2,200 would go.

Should also state the surveying was done in the most careful and scientific manner, having had five years exclusive practice at surveying alone. Besides I anticipated an action at law would be instituted by trustees against contractor and his bondsmen. Consequently I thought I would be called on the witness-stand to testify in the case, hence the care and trouble taken. Would esteem your opinion in this matter and would be glad to know experience of any of your readers who have been thus circumstanced.

Note your reference as to retention of drawings, etc., by trustees. The building will likely remain in its present unfinished state for years, and if so, think the drawings should revert to the architect and be held by him in the meantime. Yours truly, "EQUITY."

[WE should think twenty dollars a very moderate price for cloth tracings of two plans and an elevation, at working scale, for a school building of the kind, and, by the universal custom of the profession, an architect is not *bound* to furnish anything more than his original drawings, and one set of tracings, without extra pay, although blue prints which cost very little are often made as a courtesy. The survey appears to have been a much more important affair than we supposed. To make a survey minute and accurate enough to be acceptable in a court of law for determining the amount due the contractor, as well as for estimating whether a given balance would be sufficient to complete the work, is a very different thing from the approximate estimates of the value of work done to a certain date, which architects frequently make, where a twenty or twenty-five per cent margin provides amply against trivial errors, and the successive estimates correct each other. Moreover, "Equity" appears to have been an expert in such business, and therefore entitled to an expert's remuneration, which, at $86.88 would certainly be very moderate. As to the custody of the drawings, while we often have to caution our readers that they are likely to find difficulty in making a legal claim on the owner of their building for the drawings from which the building is erected, there is no question that the plans are much safer with the architect than the Trustees. The architect has all his arrangements made for indexing drawings, and keeping them with reasonable safety, while we venture to predict that if the Trustees undertake to keep them without using them, in five years every trace of them will be lost and they will have to pay some other architect to make them all over again. —EDS. AMERICAN ARCHITECT.]

FREMIET'S STATUE OF JOAN OF ARC.

PHILADELPHIA, PA., October 28, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I regret to be obliged to call your attention to the loose statement of facts in last week's part of "Equestrian Monuments." To begin, Fremiet's statue is not in the Exposition, and it is not bought yet by the city of Nancy and may not be, and it may not be bought by the city of Philadelphia either, and instead of being considered the best equestrian sculpture in the world, is pronounced an object of pity more than praise by four-fifths of the sculptors in Paris, and by the sculptor's friends as an exhausted effort of an enthusiastic delusion. While in Paris this summer I took pains to secure opinions in relation to this statue from those who saw it during the three weeks' exposure at the *Salon*.

Very truly yours, JOHN J. BOYLE.

[THE writer is gratified to find that the rather terrifying exordium of his critic has for a real foundation the error, pardonable, perhaps, in one who had not the opportunity of visiting Paris this year, of placing Fremiet's model in the Exposition instead of in the *Salon*. He did not state that the model had been bought either by Nancy or by Philadelphia, and no more did he say that it was "the best piece of equestrian sculpture in the world." Such opinion of its merits as was expressed was the individual opinion of the writer, and though it is interesting to know how "four-fifths of the sculptors in Paris" regard it, he still inclines to believe it *one* of the best pieces of equestrian sculpture in the world.]

ATTENDANCE AT THE COMING A. I. A. CONVENTION.

COLUMBUS, O., October 28, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs,—The first article in your issue of October 19, leads me to make a few remarks, which I hope you will publish in a prominent place, and charge me with any responsibility for offense given to any person who considers himself referred to.

I hope your estimate of the number who will be present at the Cincinnati Convention is entirely too small.

In regard to absentees being represented, I desire to say this: If any are sick or detained by affliction, or if any are not possessed of the means necessary to attend the Convention, I hope that all such may have a representation; and if they will all write letters to the proper officer, expressing their views upon any question to be considered, I have no doubt their opinions will be treated with the same respect as though they were present in person to take part in the discussion.

I will say further, that I, for one, would be glad to hear expressed there, the opinion and wishes of every architect in the country, upon every subject which may come up to be decided, but I am decidedly opposed to having persons who willingly absent themselves from the meeting represented by any means whatever.

I can think of nothing outside of the two reasons above stated which can furnish a sufficient excuse for any member of the profession being absent.

The notion that any one is detained by business engagements has no foundation in truth. All such can be there if they will take a little trouble to arrange their business beforehand, without losing anything in a business way, and all will be greatly gainers by an attendance. There is probably no client in the United States who will not respect a request to be absent from business, upon the part of his architect, during those two or three days, if the architect will

be candid enough to give the reason for his request. It is not "business" which will keep any one away. If any member of the profession was offered a fine commission if he would be in Cincinnati at that time, 999 out of every 1,000 of us would find that our business at home would not need our attention just then. Therefore, I say let us lay down our business, put aside all other engagements and be present at the Cincinnati Convention.

To send some one else as a representative, is about equal to sending somebody else to eat a dinner for us, and to ask to be represented when one wilfully makes engagements to be absent, is about equal to one who neglects all his duties in this life, wanting to dictate the design for the crowns to be worn in the New Jerusalem.

The way to do the profession good, and particularly to do ourselves good, is not to send somebody, or a letter, but to be at the meeting ourselves. Respectfully yours, J. W. Yost.

[The millennium is not yet, and Columbus is somewhat nearer Cincinnati than are New Orleans, San Francisco and Boston. Although the desirability of a full attendance is obvious, "business" will unquestionably keep at home many men whose representation by proxy would be valued at the Convention, and whose right to such representation, since it has the support of well-establi-hed precedent, should be unquestioned. — Eds. American Architect.]

NOTES AND CLIPPINGS

The Monument to William I. — In the matter of the competition for the best design of a National monument to the memory of the late Emperor William, the jury has now issued its award, which grants two first prizes and four second out of a total of 114 claimants. The competition was confined to the sculptors and architects of Germany, and the latter have borne away the palm, the two first prizes being awarded to plans in which architecture is the predominating element. It does not, however, follow, though on the whole it is probable, that the first of the prize designs will be the one ultimately selected. The most conspicuous of these, which proves to be the work of the architects who are building the new imperial house of parliament on the Königsplatz, Messrs. Rettig and Pfann, is that of a huge and ornamental structure, half temple, half cathedral, surmounted by a victory-topped dome, which would be made into a kind of pantheon for the chief unifiers of modern Germany. Under the lofty dome, and at the top of a broad flight of steps, there would stand a magnificent statue of the emperor, flanked on either side by statues of his great generals, while the pile would also contain a hall or Valhalla of German sovereigns, and be otherwise ornamented with sculptured commemoration of the course of National unity. The designers of this pantheon propose to build it on the site now occupied by the theatre and summer garden on the Königsplatz, exactly opposite the new Reichstag buildings with the victory column between and the offices of the grand general staff in view, and certainly the erection of this bold and costly scheme would make the Königsplatz a square second to few or none in Europe. Strangely enough, the decision of the jury has taken the critical public by surprise, but, on the whole, it seems to be a most commendable one. The other first prize was conferred on another Berlin architect, Schmitz by name. His design is a monument to be erected as a *carre-four* in the Thiergarten. Of the purely sculptural models, for which four second prizes were awarded, I may mention those of Herr Hildebrand, of Florence, and Professor Schilling, of Dresden, the designer of the grand National monument in the Niederwald, near Rudesheim on the Rhine. — *London Times.*

The Tower of St. Michael's, Coventry. — A curious controversy is going on in regard to the tower and spire of St. Michael's, Coventry, which, as many of our readers will be aware, has been undergoing some absolutely necessary repair and restoration under the care of Mr. J. O. Scott. It is now a question whether the tower is strong enough to make it prudent to hang again the peal of ten bells, and the evidence of the architect and the bell-founders seems conclusive that it is not. It has been suggested that the bells should be rehung to chime only, but as a member of the Restoration Committee remarked, "The people of Coventry would not care a farthing rushlight for that"; and they are right. A committee of honorary architects, consisting of Messrs. Ewan Christian, Herbert Carpenter, James Brooks, W. White, and J. P. Seddon, have reported that it would be dangerous to hang the bells unless the north and south windows of the tower, including their internal and external arches, were taken out and replaced by solid masonry, and powerful central buttresses of adequate width and projection carried up sixty feet, as far as the springing of the windows on the second story. The report concludes with an expression of opinion "that it is undesirable that the authentic design of one of the finest towers in England should be interfered with, merely for the purpose of ringing a peal of bells, the hanging of which within its walls the original designers, it is quite certain, could never have contemplated." This seems the common sense of the matter; but Mr. Christian has sprung a rider on his co-signatories dissenting from this "archæological" opinion, and bringing in the authority of Mr. Pearson to the effect that the proposed buttresses and closing up of the windows would be quite a proper course to take. This only shows what an unsafe and capricious guide Mr. Pearson is in such matters. He has been occupied at Westminster Hall in purely "archæological" erections, and now he wants to take the opposite line and entirely alter a famous tower for the sake of hanging bells there. Now if the bells were a necessity, or formed part of the design, there would be reason in this: but St. Michael's tower was not built for bells; it is a work of art, as well as of archæological interest, and to alter it to this extent for such a purpose, especially as a subscriber has promised to give half the cost of a new tower adequate for the bells, seems to us nearly if not quite inexcusable. For the present the matter is in abeyance. As our readers know, we have never supported the purely archæological view of ancient buildings; but this is a proposal to alter and certainly to some extent to deform the design of an ancient and very fine tower and spire, for the mere object of hanging bells in it. The Restoration Committee had much better build a new bell-tower, towards which they are offered material assistance, and leave the old tower unaltered. — *The Builder.*

TRADE SURVEYS

One of the incentives to extraordinary investments of capital is the abundance and cheapness of land. Another is the assurance that this abundance of cheap land will disappear after a few years. The appreciation of land in cities and suburban localities and contiguous territory during the past few years has helped to increase investments in more remote localities where returns are not likely to be realized. Thousands of persons whose favorite but costly amusement for years past has been to deal in railroad securities are now buying real estate and lands in far-off places. There are no means for arriving at any satisfactory results as to the extent of such investments, but an enormous amount of money has been distributed in the newer States through the transfer of ownership. This diversification of capital is attracting, and will continue to attract, widespread interest, because it is apparent that land in America is destined to rise in value not slowly, but rapidly. The causes which revolutionized ownership in former periods of commercial depression through the mediumship of sheriffs and law-courts are not acting now, and cannot. The reasons are too evident for detailed enumeration. Among them are the decentralization of industries, the establishment of banking facilities in isolated places, the utilization of raw material on a large scale — such as lumber, petroleum, coal, iron, ore, etc. — and the general balancing of the country's capacities and activities. These and some other less apparent but equally potent causes have been diverting capital and enterprise from one unsatisfactory line of investment into another and more valuable and permanent one. This policy of land-buying is intended by most investors to be productive of good annual incomes in after years, but the causes invisible just now will lead to a breaking up of these and all large holdings, notwithstanding the fears of theorists to the contrary. This fact and tendency is referred to to show that while land-purchasing is right and profitable, it cannot yield land-buyers and their heirs an assured income, for fortunes in land, as well as fortunes in money, will take wings and fly. The present rush after land is simply the preparatory step for a more general outgo from Eastern relatively over-populated sections. The success of new industries is being accompanied with the successful development of new commercial centres, and must result in as complete a commercial decentralization, so far as Atlantic coast commercial centres are concerned, as has been accomplished in manufacturing. Little types of New York, Philadelphia, Pittsburgh, and Chicago are rising in the woods of the South and the prairies of the West, and all the economic agencies at work are pointing in that direction. Last week, 76,000 tons of freight were shipped eastward from Chicago on the trunk lines, as against 46,000 tons for same week last year. This is a fair sample of commercial activity throughout the country. Railroad earnings improve, but the recuperation from the effects of 25,000 miles more of road than the country needed is necessarily slow. The great industries prosper in every fibre. The iron and steel makers are counting whether their pig-iron supply will fail them. Railroad-builders who wanted two hundred thousand tons of steel rails have been frightened at the $3 advance, and are waiting.

Buyers of steel are slowing up a little to calculate the chances of contracting for crude steel at two or three dollars per ton less after the present rush is over. Lumber manufacturers are preparing for a winter of even greater activity, presumably for good reasons apparent to them. The small and great hardware manufacturers have not for many years had such a season of activity. Structural iron-makers will run day and night until next summer before work in sight is taken care of. Electrical machinery requirements are compelling manufacturers to make extensive additions to capacity in all the Northern States, and inquiries are more numerous at this time for equipments and motive-power than since electricity was used for such purposes. The barb-wire manufacturers expect to form a combination to protect their mutual interests against destructive competition. Machinery, pump, tool and engine-makers have, during the month of October, added, it is estimated by some reputable authorities, enough work to engage their present force for from two to three months. All the reports received show healthy activity and competition under control. Commercial authorities say that most of the failures currently reported are due to the crowding-in of competition with insufficient capital. Money-lending interests state that while the volume of obligations are increasing, most of them relate to new or incoming business, and that less money per thousand dollars is now borrowed to tide business men over settlements than ever in the history of banking; that is, the bulk of money loaned goes into the prosecution of new enterprises and effecting the exchanges which new work makes necessary: no matter what interest is summoned into court, the same testimony is given. Little shopmen are crowded. The New England industries are busily engaged. The paper-makers report orders ahead; boot and shoe makers report expanding demand. House-builders here and elsewhere are not ready for winter. Builders in nearly every city and considerable town unite, so far as heard from, in saying that house-buying and lot-buying has absorbed more of wage-workers' earnings than in any former year. There is also a wonderful expansion of building and loan associations, and in the number of local saving banks. Yet, while these evidences of health are abundant and encouraging, the more sombre side of the picture should not be overlooked. There are too many workers scattered over the country without any reserve. High-priced stores, rigid rules and oppressive employers do injustice to tens of thousands in coal, iron, lumber and in agricultural employments. The spirit of justice and fair-dealing never grew more rapidly than now, but there remains much to do in broadening humanitarian sentiments. Justice to labor does more to disarm it of hostility to employers' interests than legislation. The improving industrial conditions are leading here and there to agitations for better compensation, and it is probable that demands of this character will become more or less general should present activity exist on the opening of the spring season.

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H. M. CONGDON, ARC

"Gloria et divitiæ in Domo Ejus".

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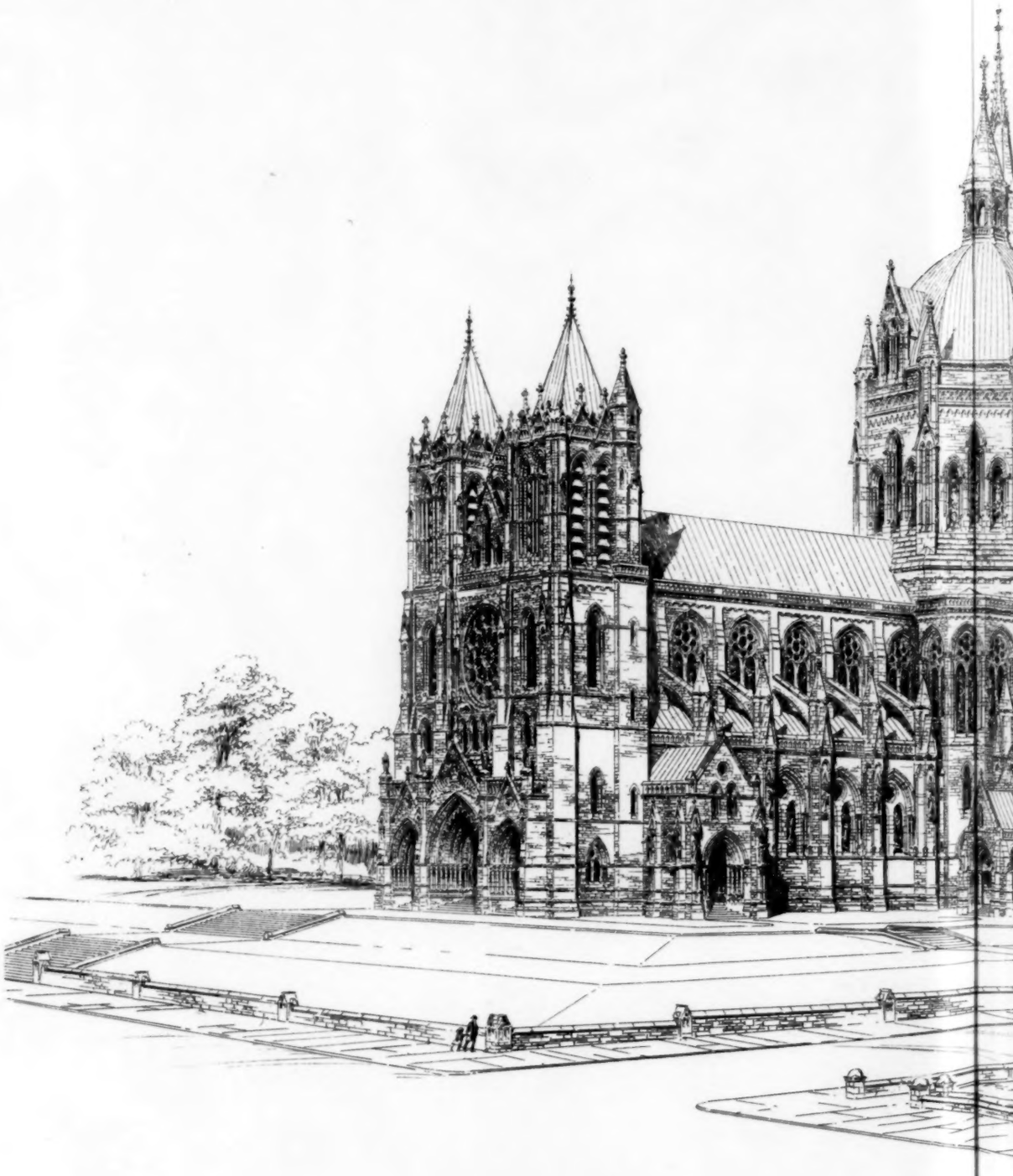

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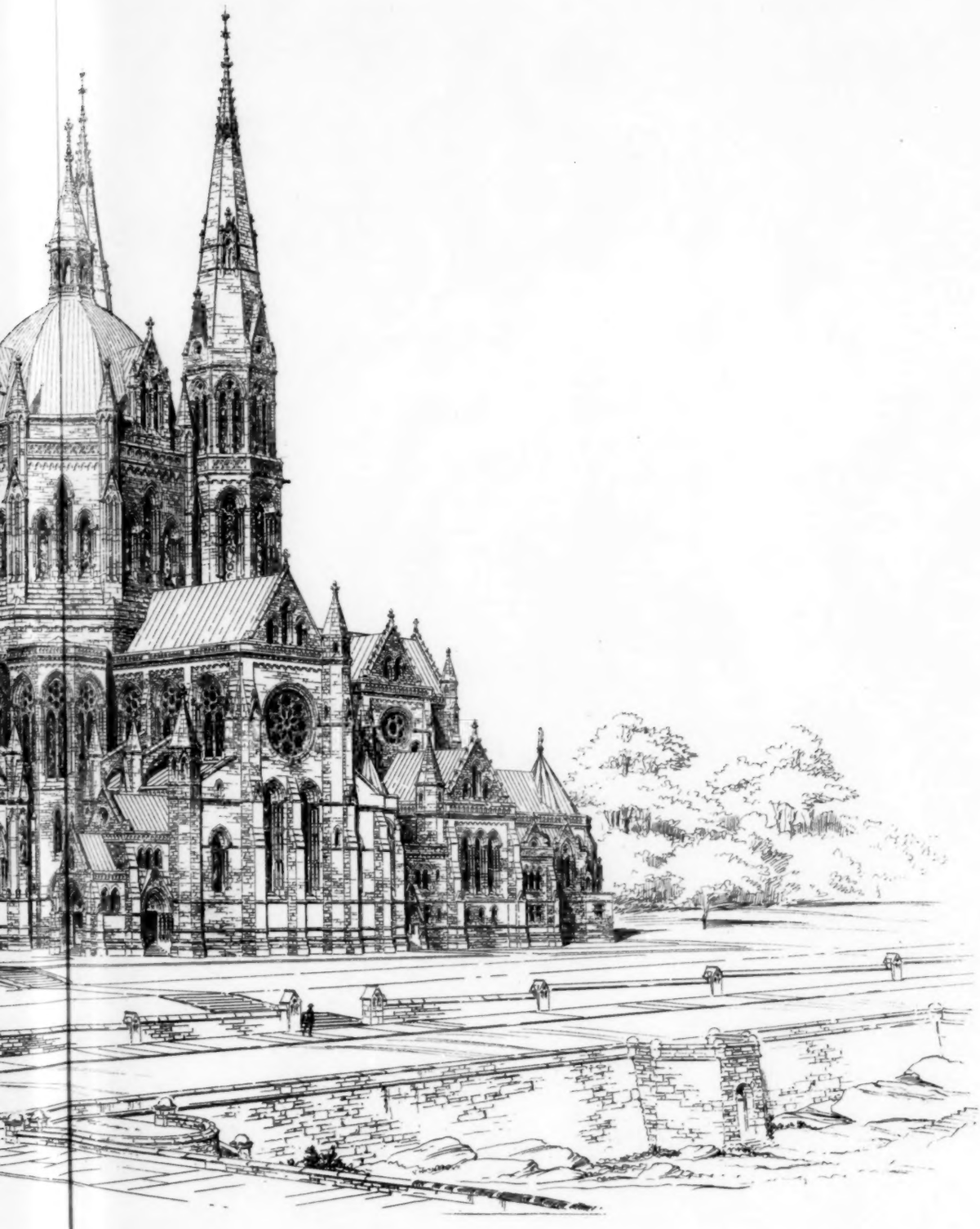

DRAL of ST JOHN the DIVINE ·New·York·

SDON, Architects, NEW YORK, N·Y·

"Gloria et divitiæ in Domo Ejus".

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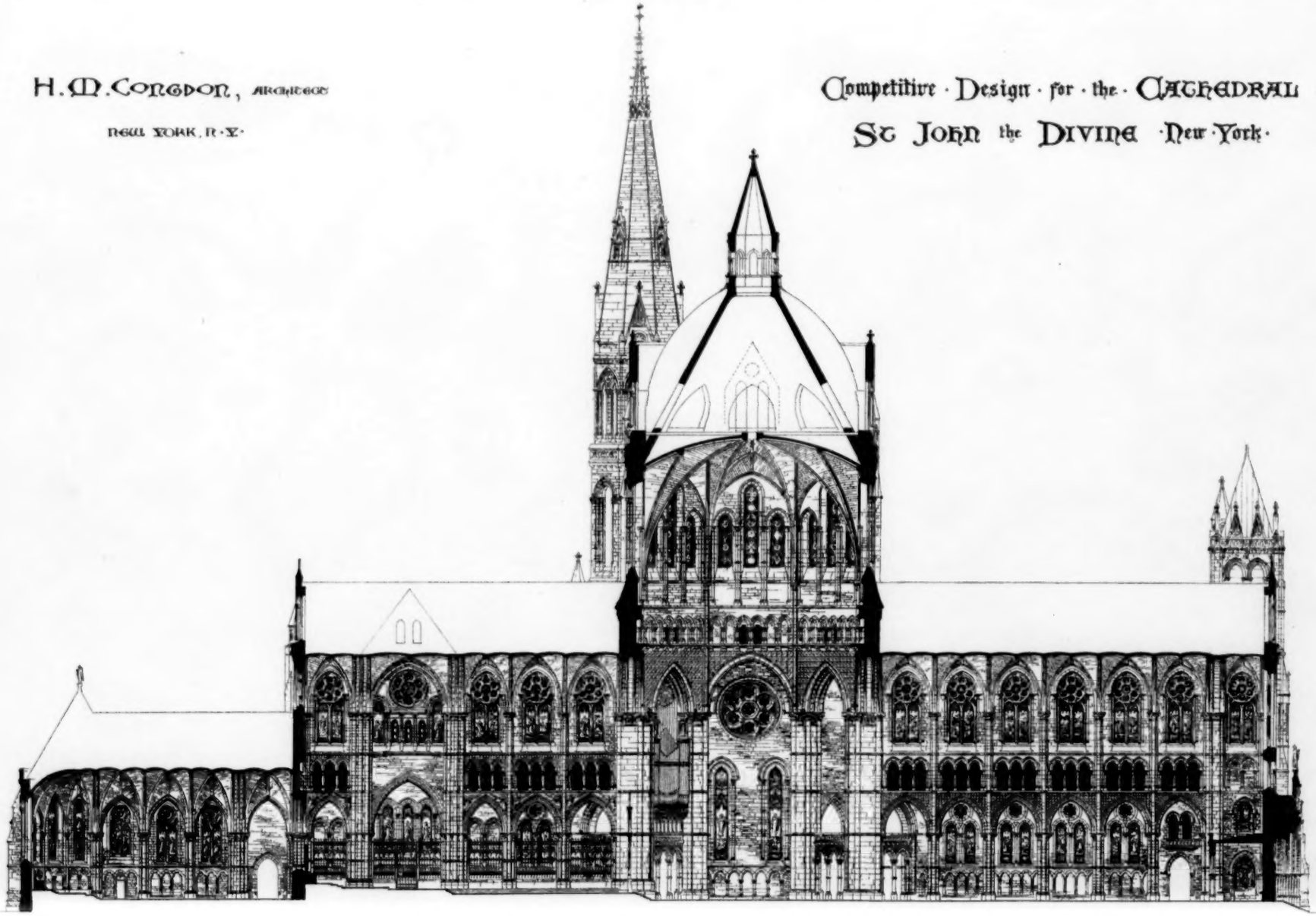
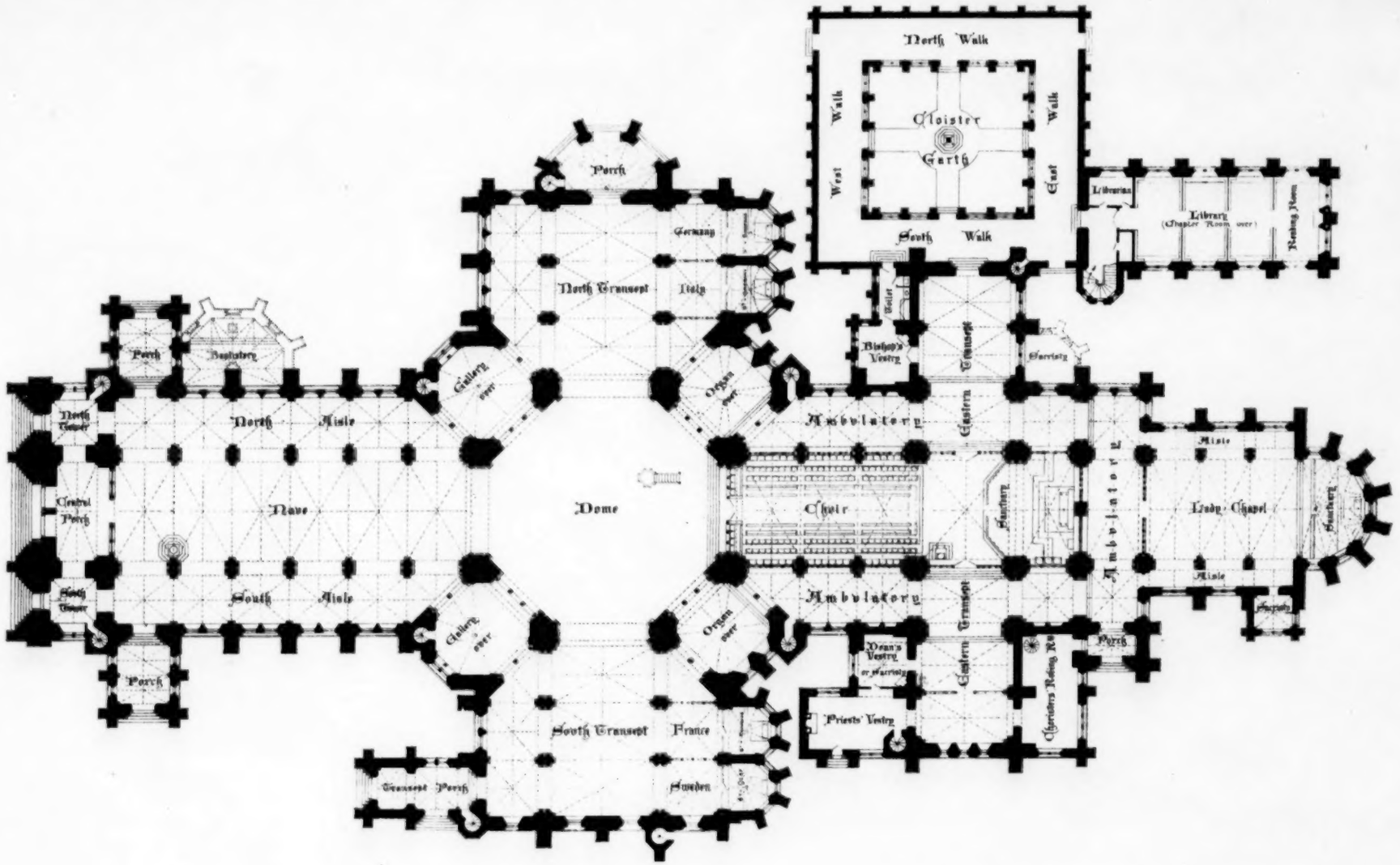
Competitive Design for the CATHEDRAL of St John the Divine New York



LONGITUDINAL SECTION LOOKING SOUTH

LONGITUDINAL SECTION LOOKING SOUTH



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GROUND PLAN

"Gloria et divitiæ in Domo Ejus"

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